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ABSTRACT

Findings of Phase I (Pilot Program) of the Pennsylvania Assessment of Educational Quality program are presented in relation to the design of the phase, the rationale for measurement, the procedures for data collection and data processing, and the results of the first analysis of the data. Tests were given to 1413 fifth graders and 1285 eleventh graders. The data are presented in relation to 10 educational goals. Forty figures present the data. The eight appendixes to the report are: Letter to School Superintendents; Letter to Parents; Instructions to Students; School Information Form; Student Information Form; Summary of Measurement Devices; Phase I Variables; and Phase I Correlation Matrices. (For related documents, see TM 001 436-438.) (DB)

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phase 1 findings

Educational Quality Assessment

TM 001 439

1

PENNSYLVANIA DEPARTMENT OF PUBLIC INSTRUCTION 1968

PHASE I FINDINGS

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THE PENNSYLVANIA PLAN

The Pennsylvania Plan for the Assessment of Educational Quality has its origin in the School District Reorganization Act of 1963. Section 290.1 of the Act requires the State Board of Education "to develop or cause to be developed an evaluation procedure designed to measure objectively the adequacy and efficiency of the educational programs offered by the public schools of the Commonwealth. The evaluation procedure to be developed shall include tests measuring the achievements and performance of students pursuing all of the various subjects and courses comprising the curricula. The evaluation procedure shall be so constructed and developed as to provide each school district with relevant comparative data to enable directors and administrators to more readily appraise the educational performance and to effectuate without delay the strengthening of the district's educational program. Tests developed under the authority of this section to be administered to pupils shall be used for the purpose of providing a uniform evaluation of each school district and the other purposes set forth in this subdivision. The State Board of Education shall devise performance standards upon completion of the evaluation procedure required by this section."

In accordance with the Act, the Bureau of Educational Quality Assessment is completing Phase I of the Pennsylvania Plan. Phase I Findings presents in detail the design of Phase I, the rationale for measurement, the procedures for data collection and data processing, and the results of the first analysis of the Phase I data.

PHASE I

Phase I of the Pennsylvania Plan for the Assessment of Educational Quality is designed to measure relationships among what a student brings with him, what the community, school and staff can offer him, and what a student achieves.

Included among the student condition variables are the level of previous learning and socioeconomic status. The community, school and staff conditions include location, expenditure figures, innovative practices, staff experience and background, and staff ratios (a detailed breakdown of Phase I variables can be found in Appendix G).

What a student achieves is measured in terms of the Ten Goals of Quality Education. The original State Board Committee on Quality Education took the position that the goals of education having to do with the growth of youngsters as persons and as useful members of society are just as important as the goals of conventional academic achievement. The Committee believes that a school system, given adequate resources, should be able to maximize the personal, social, and mental growth of all its pupils. The Committee recognizes that many of these desirable outcomes are difficult to define and even more difficult to measure. It feels, nevertheless, that any evaluation procedure which does not assess personal and social as well as mental growth is deficient as a basis for determining whether or not the program of any school district is educationally adequate.

PHASE I SAMPLE

A truly representative sample of fifth and eleventh graders in Pennsylvania should represent accurately the characteristics of the entire population of fifth and eleventh graders in the State. Generalizations based on the sample data may then be applied to the entire group. For Phase I, a stratified random sampling technique was employed in order to representatively sample fifth and eleventh grade classrooms.

The then (1967) existing 566 school districts were stratified according to (1) pupil enrollment in each district and (2) dollar market value per pupil of taxable real property within the district. Within each of the stratifications a proportionate number of schools was selected randomly to total fifty (50) elementary buildings, fifty (50) secondary buildings and seventeen (17) alternates. Within each building, approximately thirty (30) fifth grade students and approximately thirty (30) eleventh grade students were selected randomly to complete the measurement package.

Of the one hundred (100) schools in the original sample, only one declined to participate and an alternate was employed. It was emphasized that the identity of each of the schools would remain anonymous and that no individual school reports would be available. At this writing, all identifying information such as school names and locations have been removed from the data.

To test for representativeness, comparisons were made between the Phase I Sample and (A) population and (B) post-high school formal education. Figures A and B on the following pages illustrate these comparisons.

Figure A illustrates that the breakdown by proportion of civil subdivisions in the Sample is comparable to the breakdown of civil subdivisions in the State.

Figure A

Proportion of State Population and
of Phase I Sample Schools in
Civil Subdivisions of
Varying Sizes

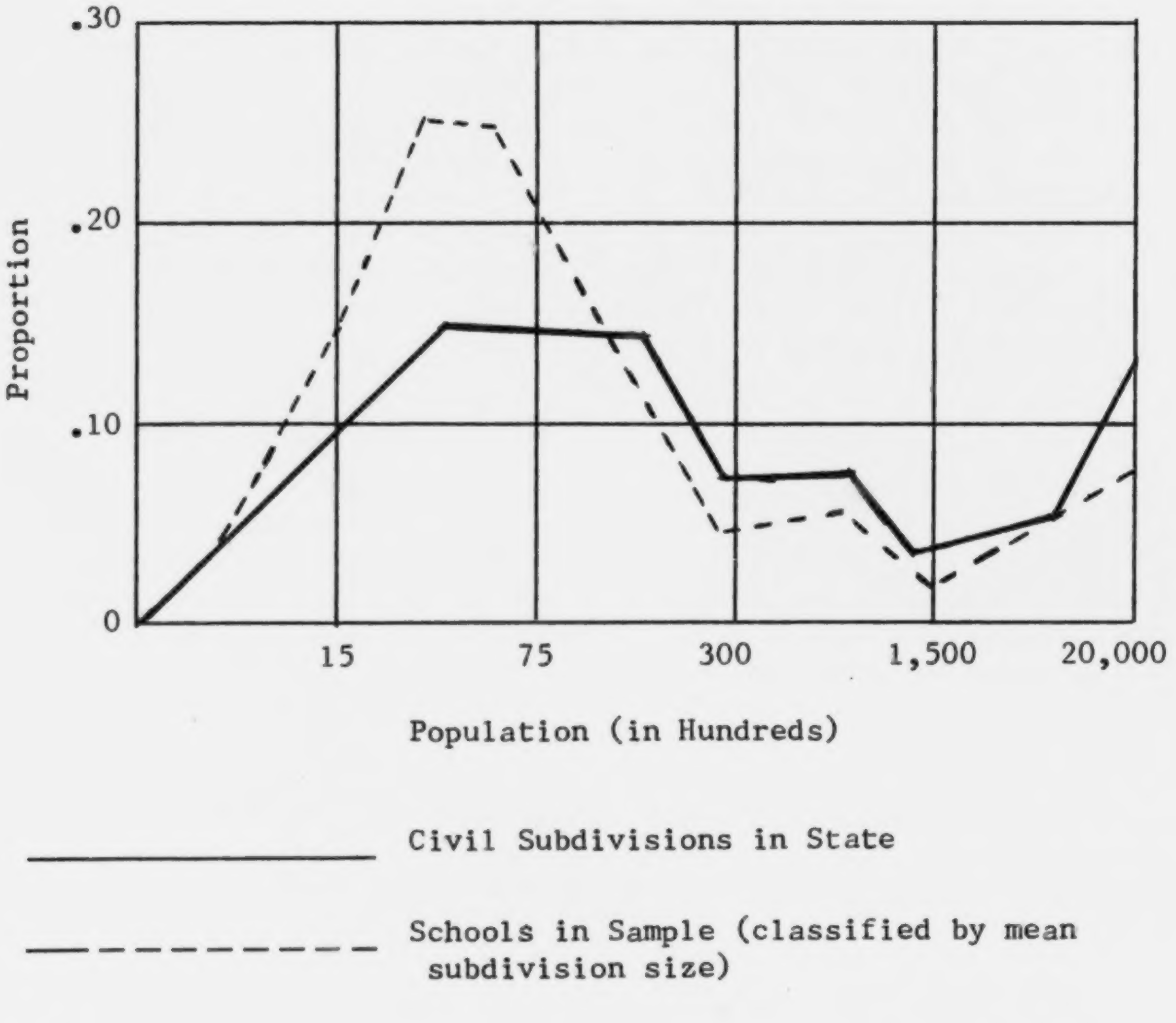
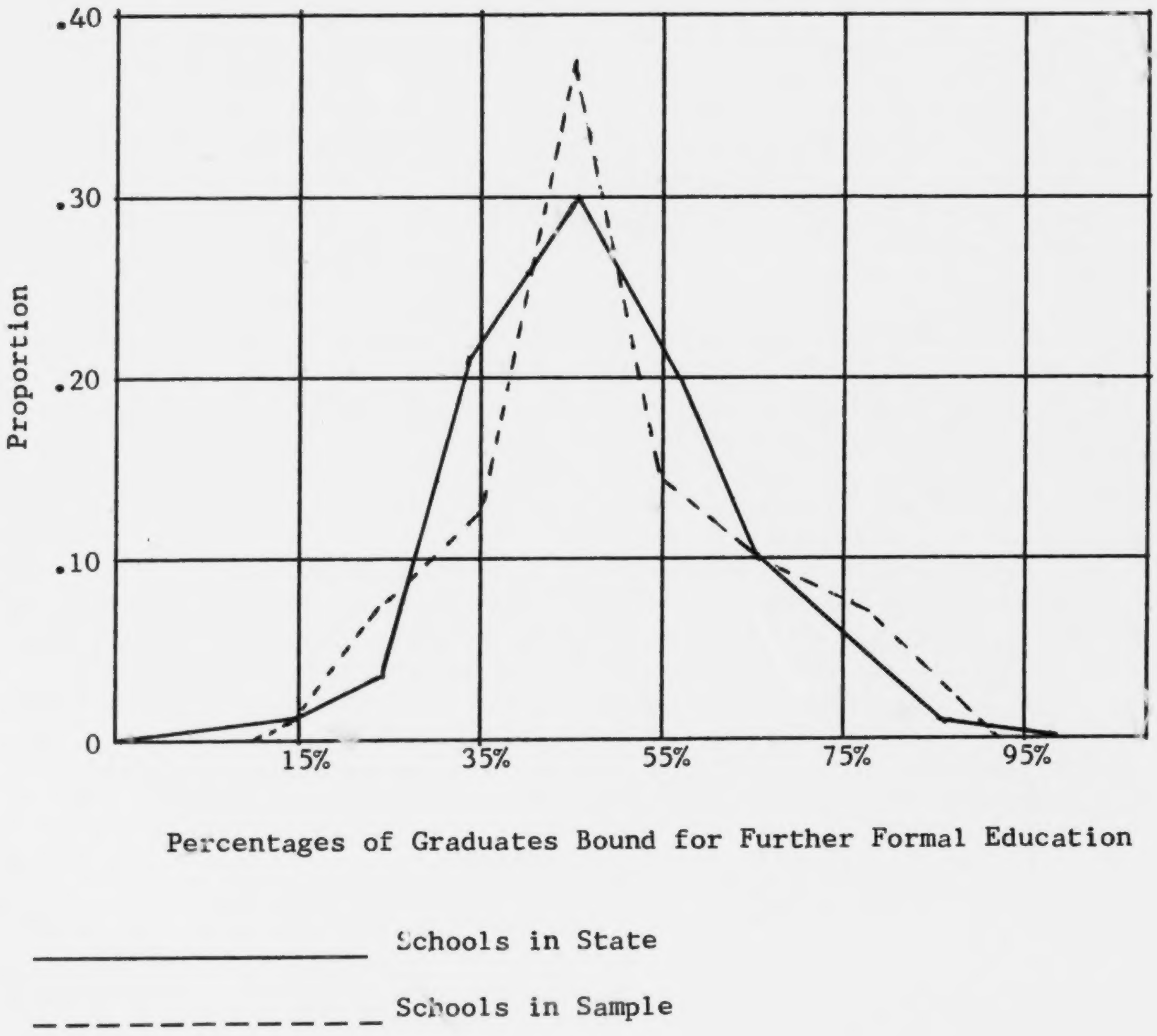


Figure B illustrates that the percentage of graduates bound for further formal education in the Phase I Sample schools are proportionally representative of the percentages of graduates bound for further formal education in the State.

Figure B

Proportion of Schools in State and in Phase I Sample Having Varying Percentages of 1966 Graduates Bound for Further Formal Education



PROCEDURES

The initial contact with each of the sample school districts was made by a letter of December 28, 1967, to the superintendent (Appendix A). In the letter, the particular school selected for the study was indicated. The second contact was made by phone within a week following receipt of the letter. Three members of the Bureau of Educational Quality Assessment together with three members of the Bureau of Curriculum Development and Evaluation telephoned each of the superintendents to arrange a visit.

During January, February, and early March, one of the six staff members visited each of the sample school districts. Most of the meetings included the superintendent or assistant superintendent, the principal of the selected school, and either a guidance or curriculum specialist. In Philadelphia and Pittsburgh, where several schools were involved, general meetings with all of the participating principals were arranged by the offices of the Directors of Research.

During the course of the visits, the staff members reviewed the nature of the Project, explained the forms the principals were being asked to complete (Appendices D & E) and distributed the necessary materials.

Each of the sample schools was asked to schedule a testing date during the weeks of April 22 and April 29. Four hours for fifth graders and five hours for eleventh graders were required. It was suggested that either two mornings or two afternoons be set aside so that the students would complete only half the battery on each day. The majority of schools scheduled the testing to be done in two parts on two days. The only other responsibilities the schools were asked to assume were to provide a place for the testing and to assure that the selected students were at that particular place at the scheduled time.

TEST ADMINISTRATION

The Commonwealth is divided into seventeen (17) educational development regions each served by an Educational Development Center Director. The Directors assumed the responsibility for (1) selecting monitors to test in the sample schools, (2) training the monitors for the test administration, (3) delivery and return of the testing materials to and from the school and (4) the security of the test materials while in transit. In Philadelphia these responsibilities were met through the cooperation of the Bureau of Research Administration and Coordination of the Department of Public Instruction.

With the help and cooperation of the Directors, all of the testing was completed as scheduled. The final number of students for whom tests were processed and analyzed equals:

1413	Fifth Graders
1285	Eleventh Graders
2698	Total

Only those students who completed the entire test package were included in the processing and analysis.

Students marked all of their answers on Digitek forms. Each student was assigned a dark mark coded number for identification purposes. For two of the instruments, consumable booklets were used. Separate answer sheets were designed for the remaining three instruments. Appendix F presents a summary of the Phase I measurement devices.

DATA PROCESSING AND ANALYSIS

Data processing and analysis were accomplished through the cooperative efforts of the Bureau of Educational Quality Assessment, the Bureau of Educational Management Information Systems, the Bureau of Research Administration and Coordination and the Center for Cooperative Research with Schools, located at The Pennsylvania State University.

Weightings assigned to each item were determined by a panel of judges. Computer programs assigning these weights to the pupil responses were then written. Pupils marked their responses on Digitek answer sheets which were scored with optical scanning equipment. Data from the teacher questionnaire and school and community data were similarly processed. Subsequently, all data were put on magnetic tape for the analyses.

Each of the newly developed items, as well as each of the items for which analysis was not readily available, was subjected to item analysis. Correlations were produced between a single item and a composite of the remaining items on the instrument.

Each of the variables, both output and condition, was correlated with every other variable. Appendix H contains the matrices of Pearson product moment correlations for the fifth grade and for the eleventh grade.

For the size of the Phase I samples, $r = .062$ is significant at the .05 level and $r = .081$ is significant at the .01 level. However, since repeated significance tests are being applied to the same samples, a significance level of .0001 has been adopted. At the .0001 level of significance, a correlation coefficient must have a magnitude of at least .110 to be accepted as significant.

The zero order correlations were then used as the bases for multiple correlation coefficients. Those condition variables correlating highest with a given output variable but having low intercorrelations were submitted to a step-up multiple linear regression procedure from the package of statistical programs developed by the Computation Center at the Pennsylvania State University.

In the stepwise procedure, intermediate results are used to give statistical information at each step in the calculation.

These intermediate answers are also used to control the method of calculation. A number of intermediate regression equations are obtained as well as the final multiple regression equation. These equations are obtained by adding or deleting one variable at a time, giving the following equations:

$$Y = b(0) + b(1) \times (1)$$
$$Y = b'(0) + b'(1) \times (1) + b'(2) \times (2)$$
$$Y = b''(0) + b''(1) \times (1) + b''(2) \times (2) + b''(3) \times (3)$$

The variable added is the one which makes the greatest improvement in "goodness of fit". The coefficients represent the best value when the equation is fitted using the specific variables included in the equation. Important properties of this procedure are that: (1) a variable may be indicated to be significant in any early stage and thus enter the regression equation, (2) after several variables are added to the equation, the initial variable may be indicated to be insignificant. The insignificant variable will be removed from the regression equation before adding an additional variable. Therefore, only significant variables are included in the final multiple regression equation.

A factor analysis of selected items from each of the new test instruments is in progress.

GOAL I

QUALITY EDUCATION SHOULD HELP EVERY CHILD ACQUIRE THE GREATEST POSSIBLE UNDERSTANDING OF HIMSELF AND AN APPRECIATION OF HIS WORTHINESS AS A MEMBER OF SOCIETY.

It is widely held that self-esteem is significantly associated with personal satisfaction and with effective functioning. The view which a person holds of himself, in terms of his adequacies and his inadequacies and in terms of his values and of his desires, can have a strong relationship to his performance in school.

Self-esteem is a personal judgment of worthiness, a subjective experience which the individual conveys to others by verbal reports and other overt expressive behaviors. What are the conditions that lead an individual to value himself and to regard himself as an object of worth? Coopersmith (1967) discussed four major factors which contribute to the development of self-esteem:

1. We value ourselves as we are valued. The amount of respectful accepting and concerned treatment we receive from parents, teachers and other significant persons can have a profound affect on the amount of worth we ascribe to ourselves.

2. We achieve self-esteem when living up to aspirations in areas we regard as personally significant. All persons do not necessarily interpret indices of success and approval equally favorable.

3. We perceive success and esteem in light of our personal goals and values.

4. Our manner of responding to devaluation can help us to maintain our self-esteem or can lead us to minimize and distort it. The ability to defend self-esteem in the face of negative appraisals helps us to reduce anxiety and maintain personal equilibrium.

Measurement in Goal I for Phase I consists of fifty-seven (57) statements on the Pennsylvania Student Questionnaire to which students are asked to check "Like me" or "Unlike me".

How a pupil sees himself as a person, as a student, and in social relationships is measured by statements such as:

A. Most people are better liked than I am.

B. I like to be called on in class.

C. Kids pick on me very often.

A second dimension being assessed is based on the proposition that the sense of control a student feels about his environment is significantly related to his performance in school. The control of environment items were found to correlate significantly with achievement in the Equality of Educational Opportunity Study done for the United States Office of Education by James Coleman and others (1966).

In the positive aspect of this dimension, the student will view his world as one in which he will be able to fulfill some of his hopes and ambitions. He will feel personal responsibility for planning his future role and will proceed with direction and purpose, discounting, for the most part, the element of luck as a deciding factor in his future. He will recognize that everyone faces barriers and limitations, but these need not be immovable obstacles.

Students are asked to respond to statements such as:

A. Luck decides most things that happen to me.

B. Everytime I make a plan, something goes wrong.

PHASE I FINDINGS

GRADE 5

Correlations between Goal I and each of the other output measures are relatively low but significantly positive, ranging from r = .198 with Goal X to r = .287 with Goal III, excluding Goal IV. The r = .594 between Goal I and Goal IV is spuriously high because eight of the measuring items are identical.

Student condition variables which correlate significantly with Goal I are:

VARIABLE		r
11.	Level of Previous Learning	.248
13.	Educational Level of Father	.182
12.	Occupational Level of Father	.161
14.	Educational Level of Mother	.122

No school, staff or community variables are significantly related to Goal I.

Variables 11, 13, 14, and the following were submitted to regression analysis:

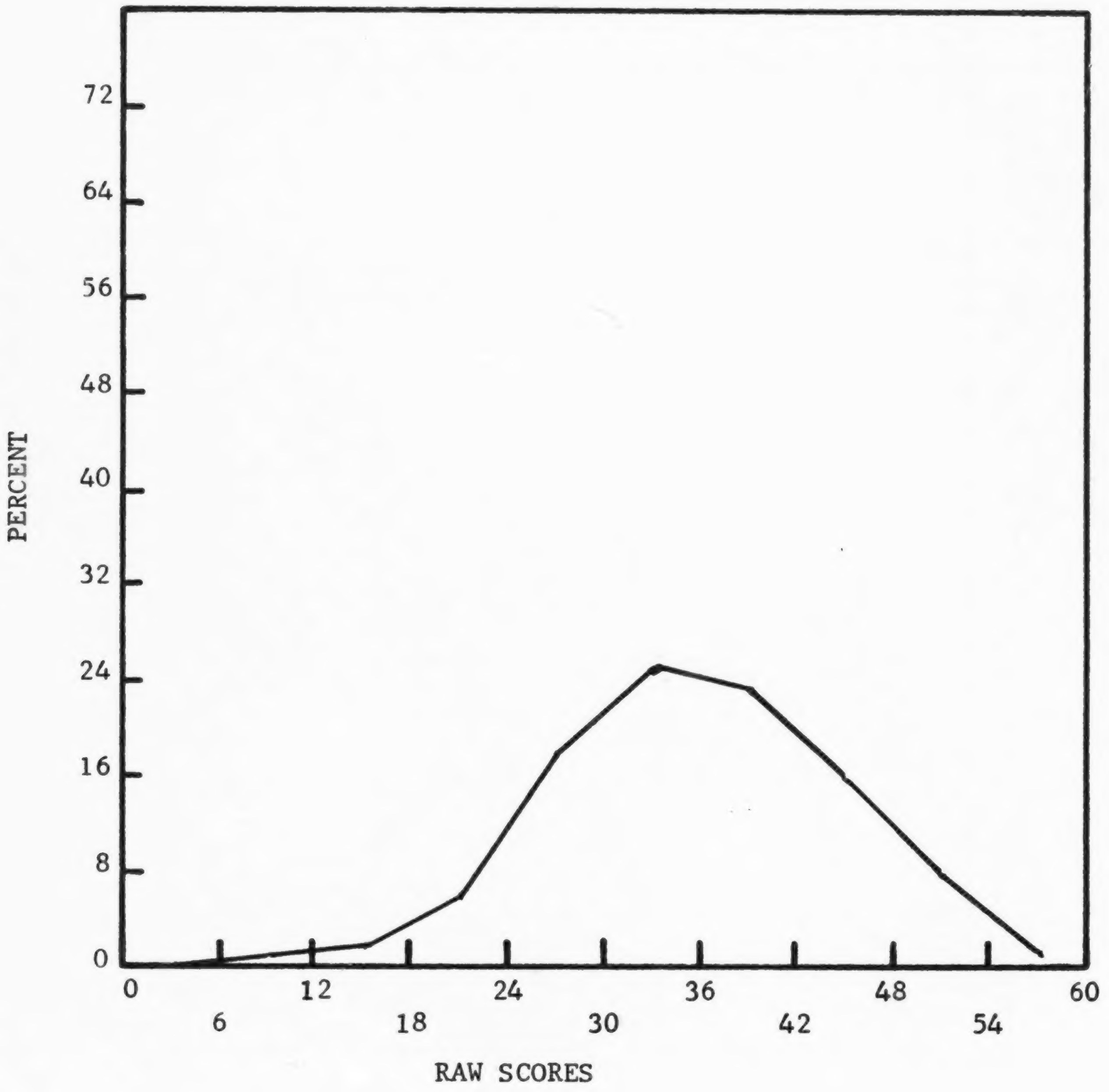
VARIABLE		r
32-Sa.	Teaching Experience	.105
35.	Teacher Age	.091
16.	Racial Composition	.094

Variables 11, 13, and 35 determined the resulting R = .278, accounting for 8% of the total variance.

GOAL I - Grade 5

The distribution of pupil scores is approximately symmetrical and approaches normality. Approximately 96% of the scores fall between 18 and 53 around a mean of 35.01 ($\sigma = 8.54$). With a possible range of 0 to 57, there is evidence to suggest latitude for individual differences. Figure 1 illustrates the distribution.

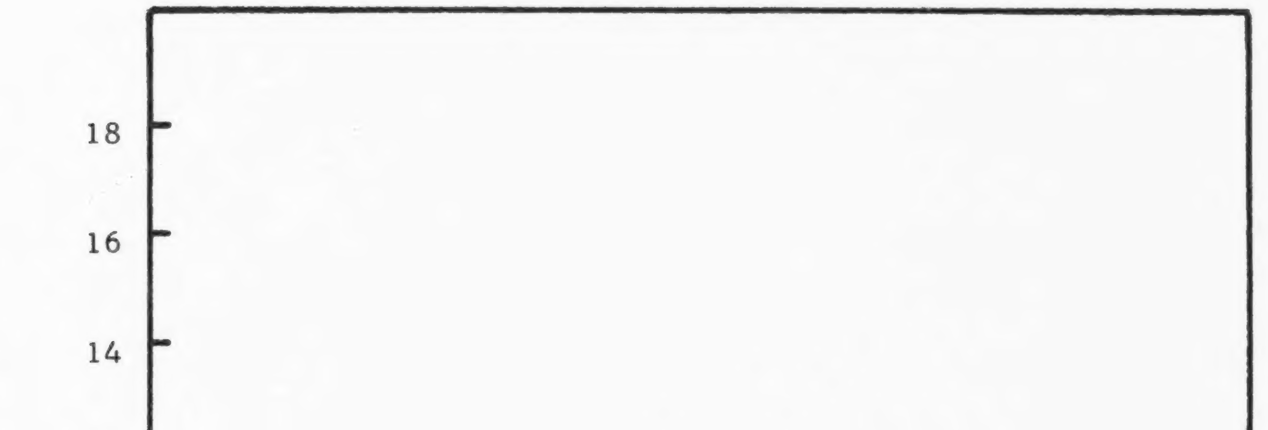
Figure 1. Distribution of Pupil Scores



GOAL I - Grade 5

The distribution of classroom mean scores reveals a range of 29.556 to 40.000. Twenty-two of the 50 classroom scores center within one score point about the pupil mean of 35.01. Thirteen means fall below 34 and 14 means fall above 36. The distribution is shown in Figure 2.

Figure 2. Distribution of Class Means



GRADE 11

With the exception of the correlation between Goal I and Creativity Output, correlations between Goal I and each of the other output measures are significantly positive, ranging from r = .196 with Goal X to r = .330 with Goal VIII. The r = .557 between Goal I and Goal IV, which is not included in the range, is spuriously high because eight of the measuring items are identical.

Student condition variables which correlate significantly and positively with Goal I are:

VARIABLE		r
17-R.	School Mores (Realistic)	.196
17-I.	School Mores (Idealistic)	.184
11.	Level of Previous Learning	.166
12.	Occupational Level of Father	.124

The only school and staff variable which correlates significantly with Goal I is (31-Sc) Teacher Educational Level, .114.

The following seven variables were submitted to regression analysis:

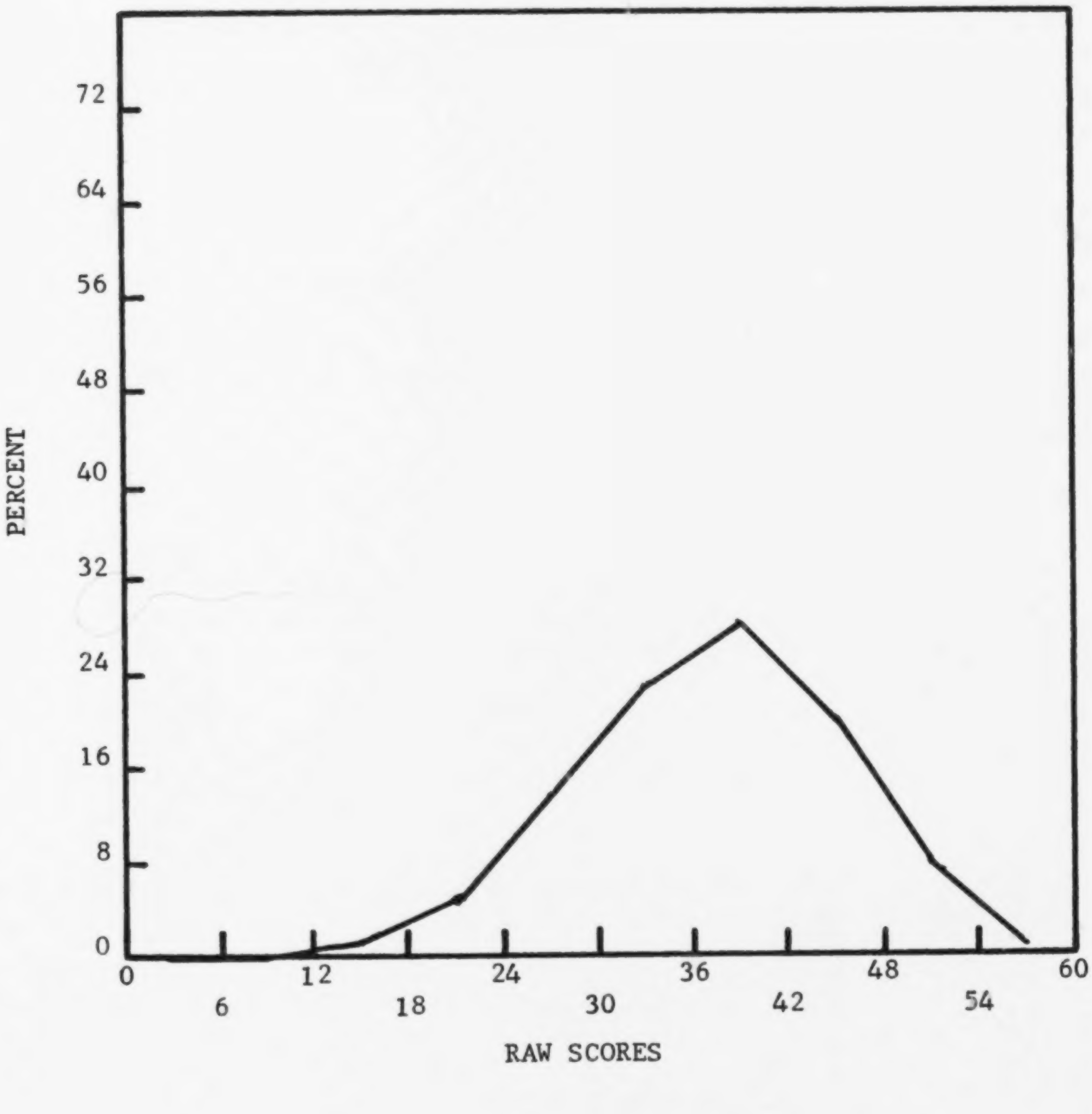
VARIABLE		r
11.	Level of Previous Learning	.166
12.	Occupational Level of Father	.124
31-Sc.	Teacher Educational Level (School)	.114
39.	Occupational Level of Teacher's Guardian	.099
23.	Per-Pupil Instructional Costs	.091
15.	Continuing Education	.084
42.	Teacher's Perception of School Climate	.076

Variables 11, 31-Sc, 39 and 42 determined the resulting R = .240, accounting for 6% of the total variance.

GOAL I - Grade 11

The distribution of pupil scores approaches normality about a mean of 36.34 ($\sigma = 8.36$). Approximately 98% of the scores fall between 18 and 53, out of a possible range of 0 to 57, suggesting latitude on the measure for individual differences. Figure 3 illustrates the distribution.

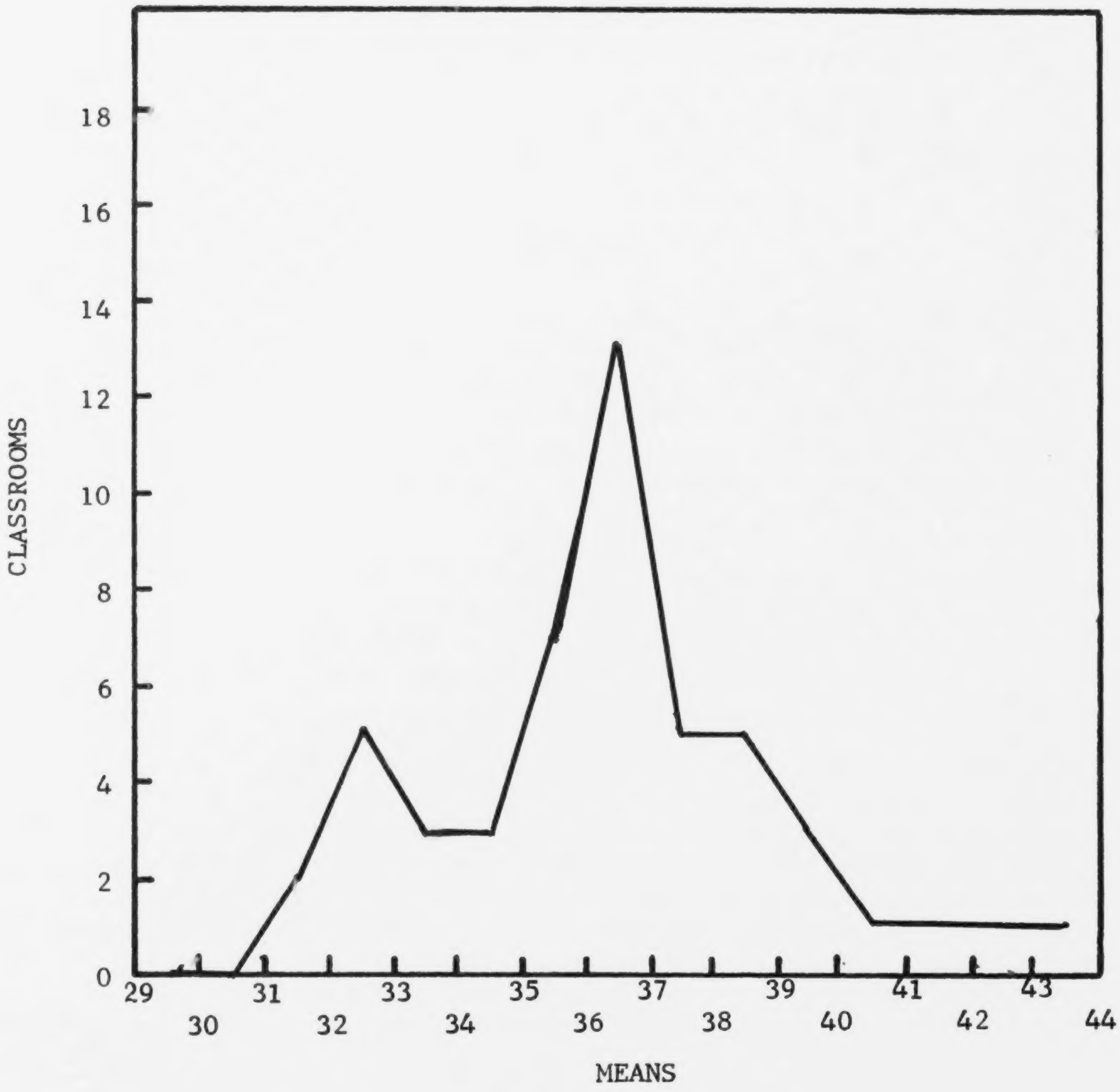
Figure 3. Distribution of Pupil Scores



GOAL I - Grade 11

The distribution of classroom mean scores reveals a range of 31.905 to 43.909. The pupil mean is 36.34. Twenty of the 50 classroom means fall between 35 and 37 with 13 classroom means below 35 and 17 means above 37. The distribution is illustrated on Figure 4.

Figure 4. Distribution of Class Means



ITEM ANALYSIS

Item analysis reveals that 53 of the 57 items show significantly positive correlations with the total score, ranging from r = .118 to r = .489 for the Grade 5 instrument and r = .188 to r = .526 for the Grade 11 instrument.

At both grade levels, three items do not correlate significantly with the total score. A fourth item, "Kids usually follow my ideas", correlates significantly and negatively, r = -.181, at Grade 11. One possible explanation for this significantly negative relationship may be that the nature of the item involves an external criterion (other kids) in contrast to the nature of the majority of the other items which involve an internal criterion ("I'm easy to like").

The content of the three nonsignificantly correlated items refers to the relationship between money and personal achievement. It appears that students with positive self concepts feel that having or not having wealth is not related to their achieving a good education or having the opportunity for success.

DISCUSSION

Analysis of the Goal I findings indicates that the way in which a pupil sees himself as a person, as a student and in social relationships is significantly related to his achievement in each of the other Goal areas. The one exception to these findings is in the area of creative output. For Grade 11 pupils it appears that creative production and self-esteem are not related.

For the Grade 5 pupil, the educational level of both his parents seems to make a difference in the way he perceives himself. For the Grade 11 pupil, however, the parental influence appears less significant and the influence of the teacher emerges as more significant.

The wide variation of school means and the great variability among individual students suggest that student self-esteem is a fruitful area for program activity. With 20% of the Grade 11 students and 27% of the Grade 5 students responding negatively to a large number of items associated with a positive self concept, with 94% of the variance unaccounted for, and with significantly positive correlations between Goal I and each of the other achievement areas, with one exception, it appears important that schools focus attention on the development [illegible] effective programs for the improvement of self understanding.

GOAL II

QUALITY EDUCATION SHOULD HELP EVERY CHILD ACQUIRE UNDERSTANDING AND APPRECIATION OF PERSONS BELONGING TO SOCIAL, CULTURAL, AND ETHNIC GROUPS DIFFERENT FROM HIS OWN.

The student who is fulfilling the requirements of Goal II will enjoy an easy interaction with all peoples. He will speak with and select as friends students of different origins and beliefs. He will actively seek information or participation which will increase his knowledge about other cultures or social settings. To evaluate others, he will use empirical and objective criteria rather than stereotyped and hearsay evidence.

Satisfactory measurement in the Goal II area is difficult to achieve, particularly with large numbers of students. Interview and observational techniques are probably the most valid methods of assessing such understandings, appreciations and interactions. For Phase I, however, data collection was limited to using paper and pencil devices.

Measurement in Goal II for Phase I consists of twelve (12) items for the fifth grade student and twenty-two (22) items for the eleventh grade student on the Pennsylvania Student Questionnaire. Students are asked to respond on a six (6) point scale ranging from "I would like it" to "I would dislike it" to "I don't want to say" to questions such as:

A. How would you feel about playing on the same team with a person whose skin color is different from your own?

B. How would you feel about having as a best friend a person whose family is much poorer than yours?

C. How would you feel about sitting in class next to a person whose ideas about God are very different from your own?

For three items, the following rationale which takes into account nine classifications of motives was constructed:

	OPEN 1	STEREOTYPED 2	NEED GRATIFYING 3
ACCEPTANCE A	I like people	One should be nice to everyone	I need friends
CAUTION B	I like people only if they are not too different	There are good & bad people in every group	I'm afraid to meet new people
AVOIDANCE C	I like people only like me	Foreigners are too different	He might be a bad influence

Open Acceptance is considered most desirable and given a weight of 9. Following are: 8, Stereotyped Acceptance; 7, Open Caution; 6, Stereotyped Caution; 5, Open Avoidance; 4, Stereotyped Avoidance; 3, Need Gratifying Acceptance; 2, Need Gratifying Caution; 1, Need Gratifying Avoidance.

Following this rationale, items were constructed around situations involving social class, religious and ethnic differences.

PHASE I FINDINGS

GRADE 5

Correlations between Goal II and each of the other output measures are all positive and significant, ranging from r = .180 with Goal VI to r = .383 with Goal V.

The student conditions which correlate positively and significantly with Goal II are:

VARIABLE		r
11.	Level of Previous Learning	.301
13.	Educational Level of Father	.239
12.	Occupational Level of Father	.236
14.	Educational Level of Mother	.190

Community, school and staff variables which correlate positively and significantly with Goal II are:

VARIABLE		r
16.	Racial Composition	.265
32-Sa.	Teaching Experience	.200
33a.	Teacher Experience in Present System	.198
33b.	Teacher Experience in Present Position	.180
32-Sc.	Teaching Experience (School)	.155
20.	Housing Types	.144
35.	Teacher Age	.140
18.	Location	.136
42.	Teacher Perception of School Climate	.130
44.	Teacher Classroom Innovation	.125

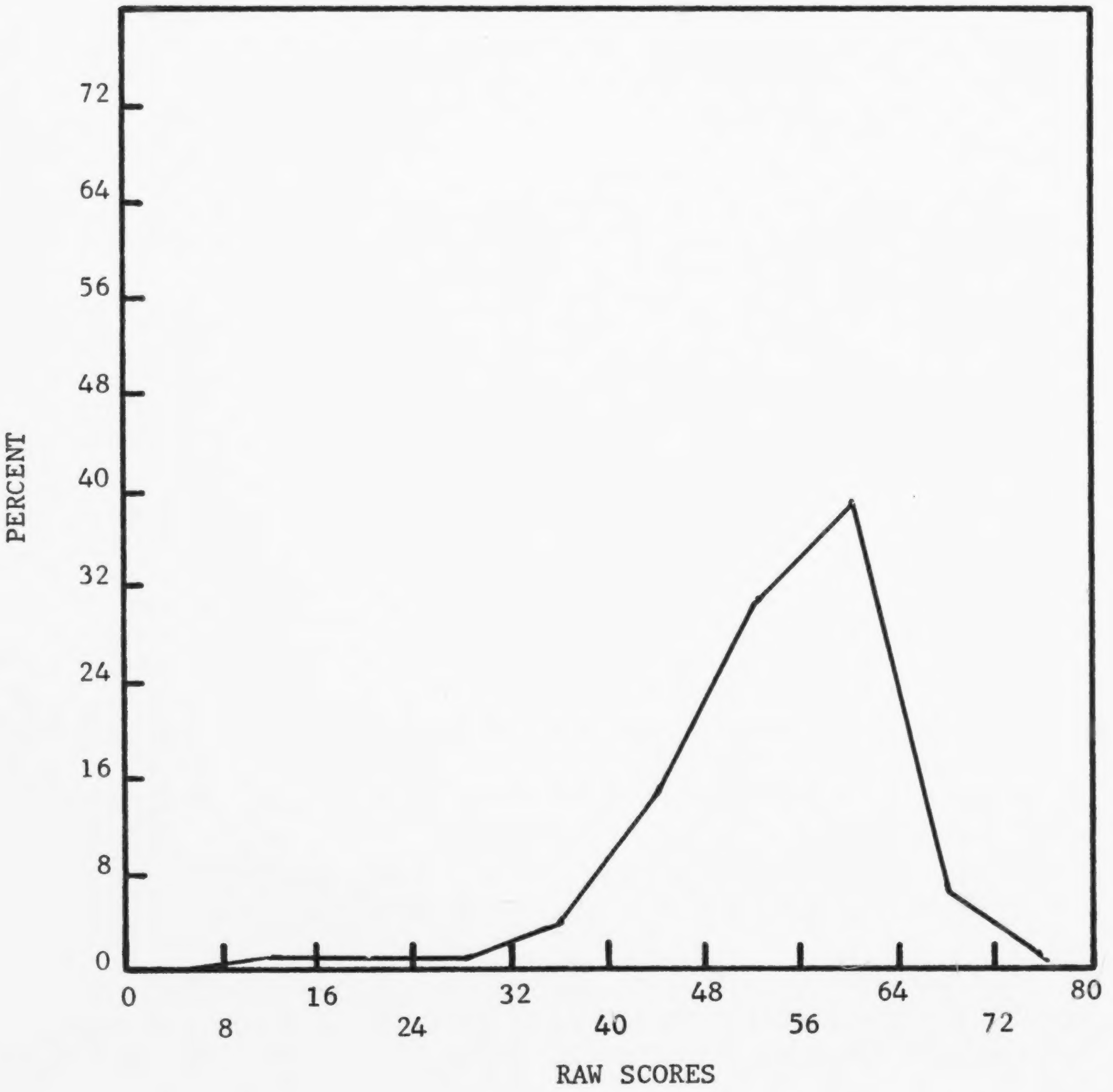
Significant, but negative, correlations occur with (45) Absentee Rate, -.205 and (41) Teacher Aspirations, -.141.

Variables 11, 16, 12, 32-Sa, 14, and 18 were submitted to a regression analysis. Variables 11, 16, 12, 32-Sa and 18 contributed to the R = .392, accounting for 15% of the total variance.

GOAL II - Grade 5

The distribution of pupil scores is heavily concentrated about the mean of 52.85 ($\sigma = 9.88$). Approximately 85% of the pupil scores fall between 40 and 63. With a possible range of 0 to 72, latitude for individual differences is evident. Figure 5 illustrates the distribution.

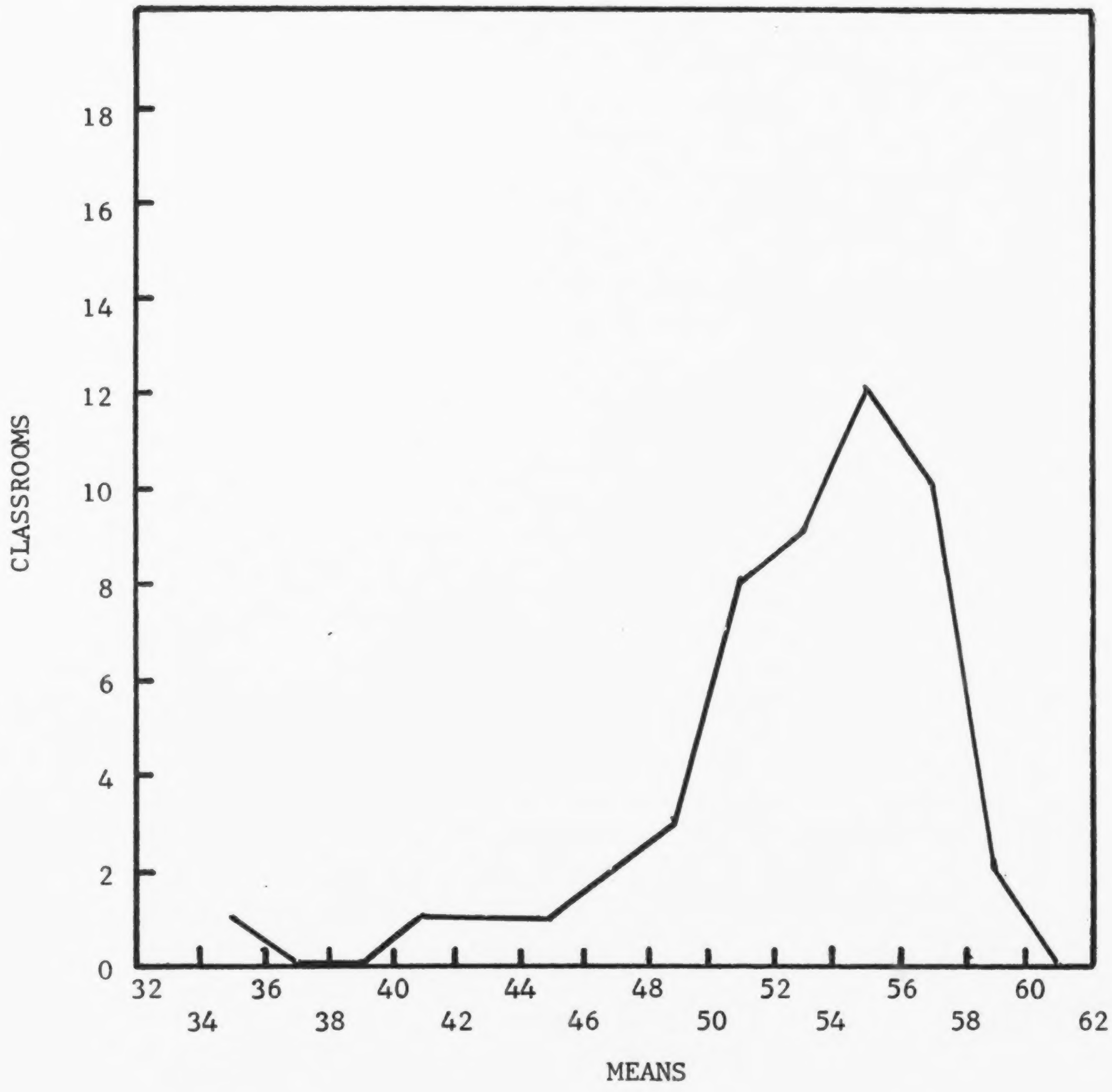
Figure 5. Distribution of Pupil Scores



GOAL II - Grade 5

The range of the classroom mean scores is from 34.889 to 58.400. The mean scores are heavily concentrated about the pupil mean of 52.85. Thirty-nine of the 50 classroom means fall between 50 and 58. The distribution is illustrated in Figure 6.

Figure 6. Distribution of Class Means



GRADE 11

Correlations between Goal II and each of the other output measures, with the exception of Creativity Output, are significant and positive. The range of significant output correlations is from r = .270 with Goal III to r = .362 with Goal V.

The student condition variables which correlate significantly with Goal II are:

VARIABLE		r
17-I.	School Mores (Idealistic)	.300
11.	Level of Previous Learning	.228
17-R.	School Mores (Realistic)	.221
12.	Occupational Level of Father	.137
13.	Educational Level of Father	.137

The school variables correlating significantly with Goal II are (15) Continuing Education, r = .116, (23) Per-Pupil Instructional Costs, r = .115, and (31-Sa) Teacher Educational Level, r = .111.

The following seven variables were submitted to regression analysis:

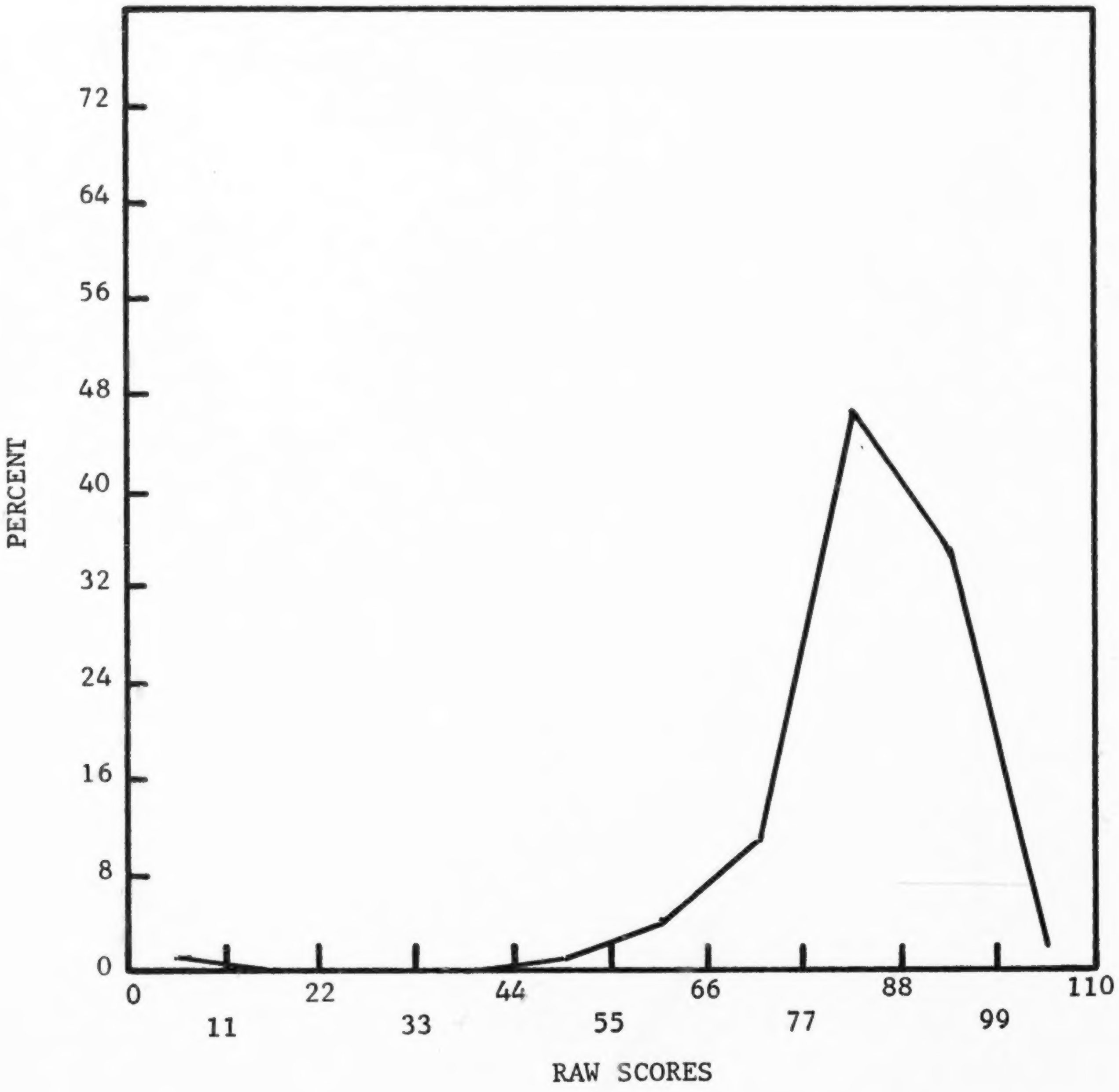
VARIABLE		r
11.	Level of Previous Learning	.166
13.	Educational Level of Father	.137
23.	Per-Pupil Instructional Costs	.115
31-Sa.	Teacher Educational Level	.111
30.	Counselor to Students Ratio	.095
39.	Occupational Level of Teacher's Guardian	.091
15.	Continuing Education	.083

Variables 11, 30, 31-Sa, and 39 contributed significantly to a multiple R = .271 and accounted for 7% of the total variance.

GOAL II - Grade 11

The pupil scores are heavily concentrated about the mean of 83.47 ($\sigma = 10.51$). Approximately 46% of the scores fall between 77 and 87. Approximately 92% of the scores fall between 66 and 98, in a possible range of 0 to 102. Figure 7 illustrates the distribution.

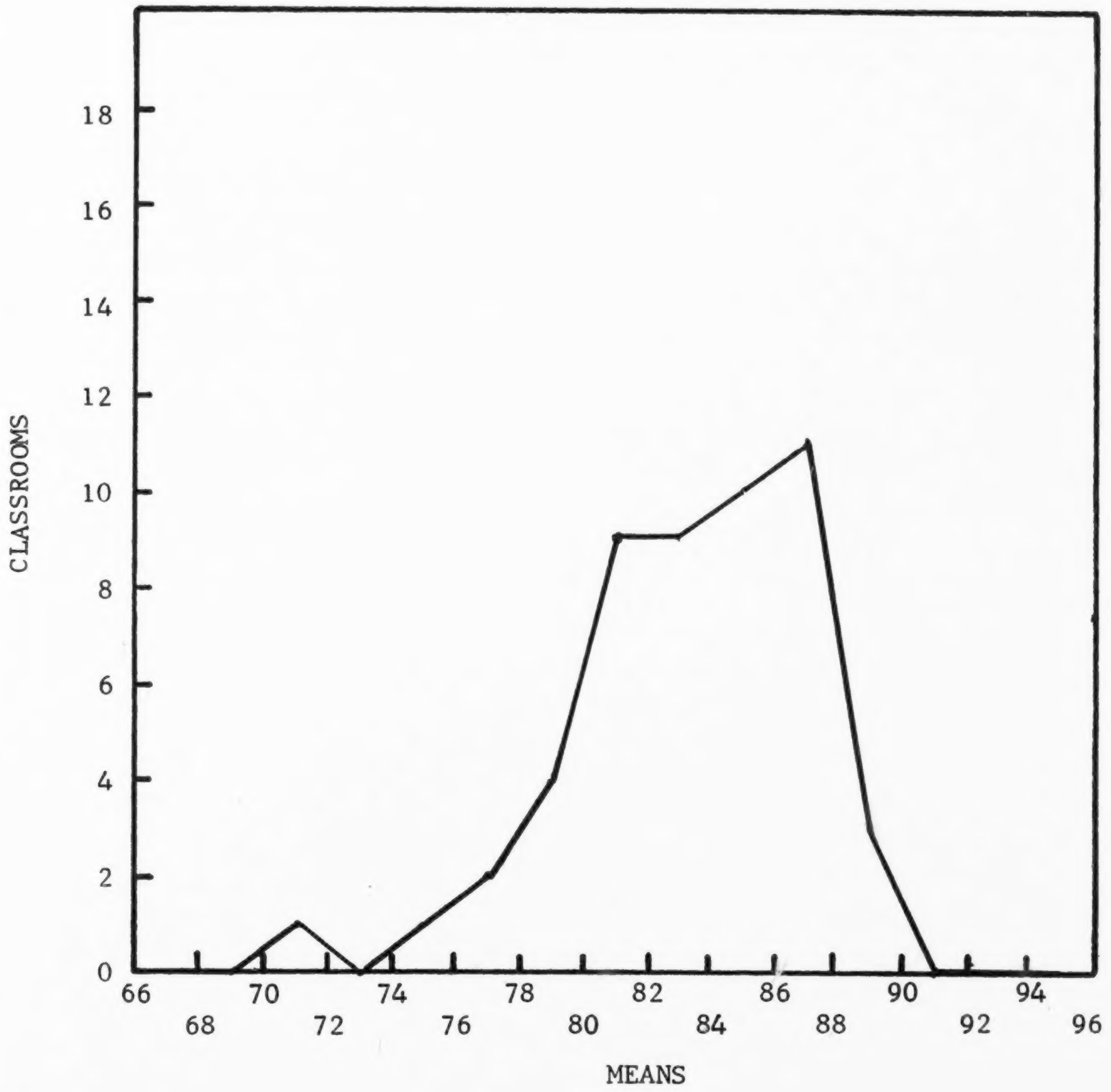
Figure 7. Distribution of Pupil Scores



GOAL II - Grade 11

The classroom mean scores range from 70.429 to 88.810. The scores concentrate about the pupil mean of 83.47. Thirty-nine of the 50 classroom means fall between 80 and 88. This concentration is seen in Figure 8.

Figure 8. Distribution of Class Means



ITEM ANALYSIS

The items in the Goal II, Grade 5 instrument have an average item to total correlation of .474, ranging from r = .310 to r = .572. For the Grade 11 instrument, the item to total correlations range from r = .117 to r = .659.

DISCUSSION

Analysis of the Goal II findings indicates that the pupil's perceived understanding and appreciation of persons different from himself is related to achievement in each of the other goal areas, with the exception of Creativity Output.

Level of previous learning and socioeconomic factors are the variables correlating most significantly at both grade levels. Socioeconomic factors also explain to some degree the significance of the location variable. In turn, the racial composition variable is influenced by socioeconomic and location factors.

Though the correlations are relatively low, more school variables tend to correlate significantly at the eleventh than at the fifth grade. This finding seems consistent with the expectation that the family has a greater influence on Goal II performance in the earlier years and that school and outside influences have more impact as the child widens his horizons.

A significant, but negative, correlation between Goal II and absentee rate occurs only at Grade 5. In elementary schools having high absentee rates, the pupils average lower scores on the Goal II measure. Absenteeism may be related to illness or it may signify rejection of the school by the pupil or his parents. Since schools are charged with a responsibility for developing understandings and appreciations of other cultures, where pupil rejection of the school occurs, rejection of the ideals fostered by Goal II may also occur.

A second significantly negative correlation at the Grade 5 level occurs with teacher aspirations and Goal II. This finding implies that pupils show greater understandings of other cultures where the teacher is satisfied to remain in the classroom and does not aspire to a supervisory position.

GOAL III

QUALITY EDUCATION SHOULD HELP EVERY CHILD ACQUIRE TO THE FULLEST EXTENT POSSIBLE FOR HIM MASTERY OF THE BASIC SKILLS IN THE USE OF WORDS AND NUMBERS.

It is in the area of basic skills where testing has reached its most sophisticated level. There is a wealth of materials to reliably and validly measure scholastic achievement. Moreover, a survey conducted by the Bureau of Guidance Services reveals that most of the students in the Commonwealth are administered at least one achievement battery in the intermediate grades and again in senior high school. The staff is currently studying ways in which scores from the five or six most widely used achievement test batteries can be compared and equated so that existing test scores can be utilized. It is considered especially desirable to provide individual scores in the use of words and numbers.

Measurement in Goal III for Phase I consists of one hundred and eight (108) items for the fifth grade student and ninety-seven (97) items for the eleventh grade student on the Pennsylvania Survey Test. The survey form is an adaptation of the Stanford Achievement Battery, yields a total score, and takes sixty (60) minutes to administer. The high school form contains questions from the English, Mathematics, Reading, Science and Social Studies subtests. The intermediate form contains questions from the Word Meaning, Paragraph Meaning, Arithmetic, Social Studies and Science subtests.

Students are asked to respond to questions such as:

A. A scientist who specializes in the study of plant life is called a

a. physicist
b. botanist
c. geologist
d. chemist

B. Ann divided the candy between her and
1. I
2. Me

C. A sales tax of 6% on $10 would be

a. $6.00
b. $ .60
c. $1.60
d. $1.06

PHASE I FINDINGS

GRADE 5

Correlations between Goal III and each of the other output measures, with the exception of Goal VI, are positive and significant, ranging from r = .293 with Goal IV to r = .736 with Goal IX.

Student condition variables which correlate significantly with Goal III are (11) Level of Previous Learning, .702, and (12) Occupational Level of Father, .365.

School and staff variables which correlate positively and significantly with Goal III include:

VARIABLE		r
16.	Racial Composition	.376
26.	Library Books to Student Ratio	.268
18.	Location	.227
20.	Housing Types	.224
33a.	Teacher Experience in Present System	.218
36.	Teacher Degree Institution	.146
31-Sc.	Teacher Educational Level (School)	.111

Significantly but negatively correlating variables are:

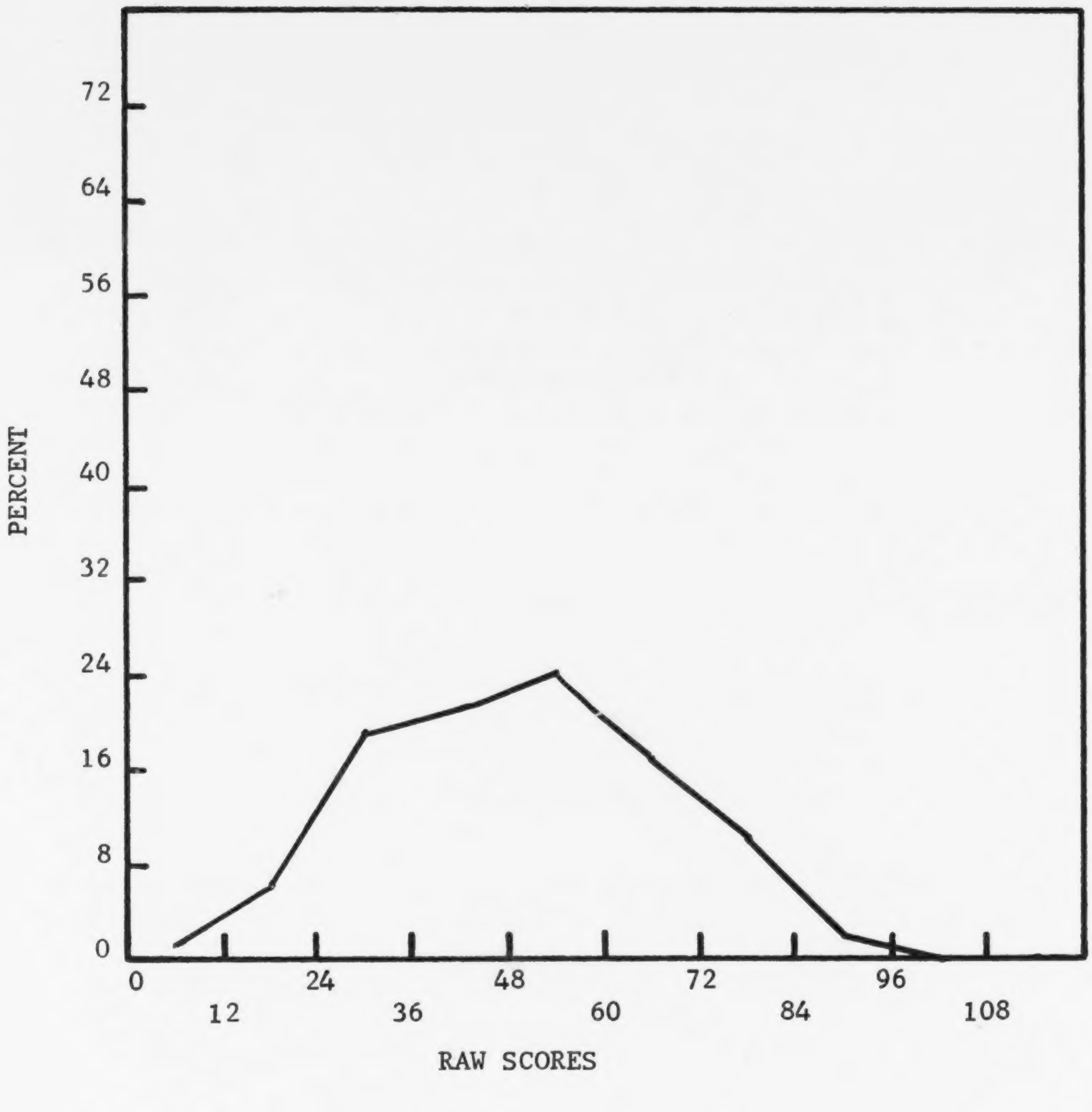
VARIABLE		r
34.	Starting Salary	-.196
45.	Absentee Rate	-.184
22.	Enrollment	-.134
30.	Counselor to Students Ratio	-.131

Variables 11, 12, 33a, 18, 26, and 16 were submitted to regression analysis, resulting in a multiple R = .745, accounting for 55% of the variance.

GOAL III - Grade 5

The distribution of pupil scores, as seen in Figure 9, is approximately symmetrical. The scores range from 0 to 96 with 99% between 12 and 95, out of a total possible range of 0 to 108. The pupil mean score is 48.55 ($\sigma = 17.59$). Ample latitude for individual differences exists within this scale.

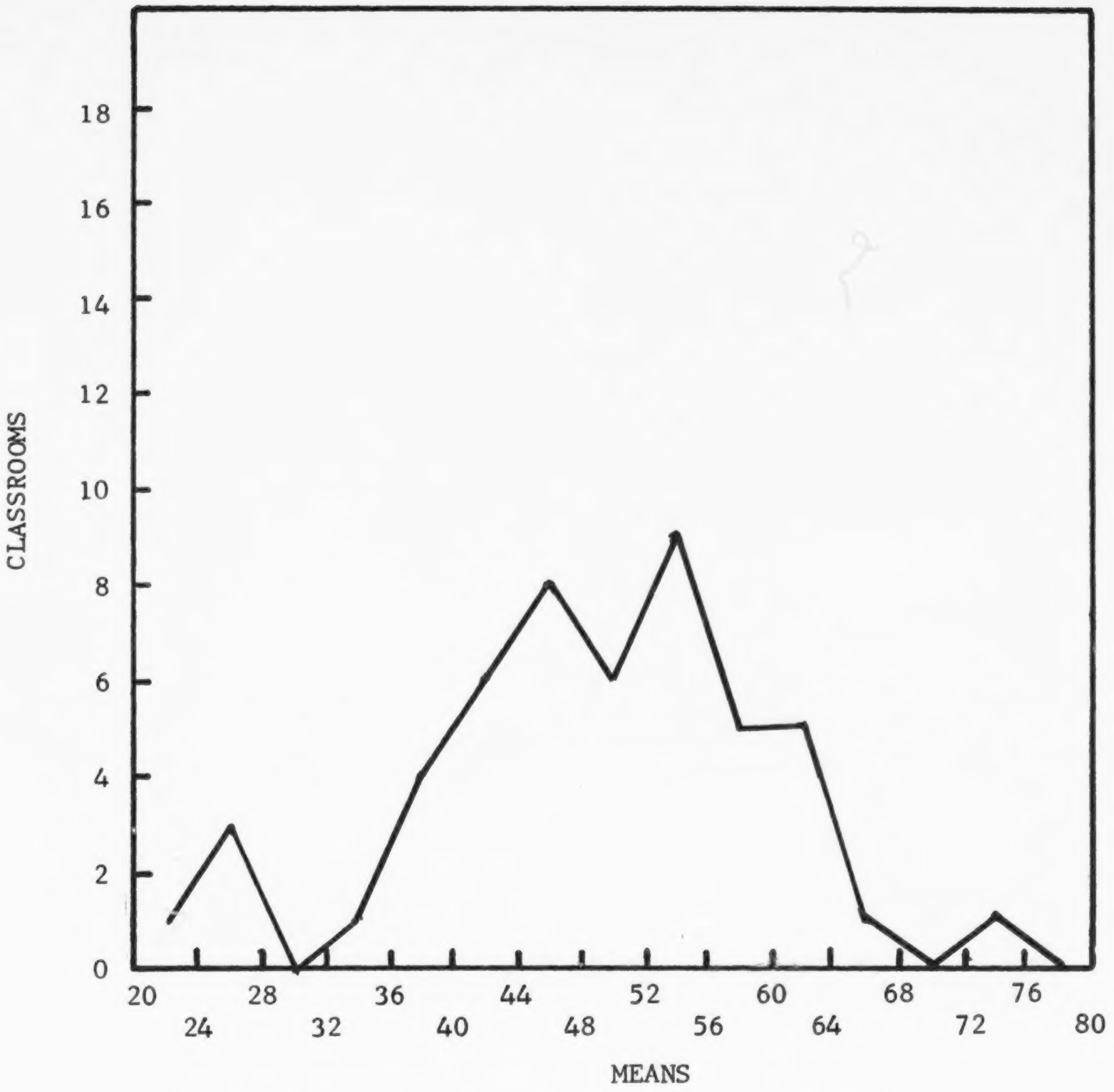
Figure 9. Distribution of Pupil Scores



GOAL III - Grade 5

The distribution of classroom mean scores is presented in Figure 10 having a range of 23.556 to 72.500. Thirty-four of the means fall between 40 and 60 about the pupil mean of 48.55.

Figure 10. Distribution of Class Means



GRADE 11

Correlations between Goal III and each of the other output measures, with the exception of Goal VII, Creativity Output, are positive and significant, ranging from r = .194 with Goal X, to r = .746 with Goal IX.

Student condition variables which correlate significantly and positively with Goal III are (11) Level of Previous Learning, .792, (12) Occupational Level of Father, .395, and the student's (17-I) Idealized Perception of School Mores, .294.

School and staff variables which correlate positively and significantly with Goal III include:

VARIABLE		r
16.	Racial Composition	.404
15.	Continuing Education	.294
21.	Effort Index	.267
24.	Holding Power	.274
19.	Population Trend	.263
28.	Staff to Pupils Ratio	.214
40.	Teacher View of Professional Recognition	.179

Correlating significantly but negatively are these variables:

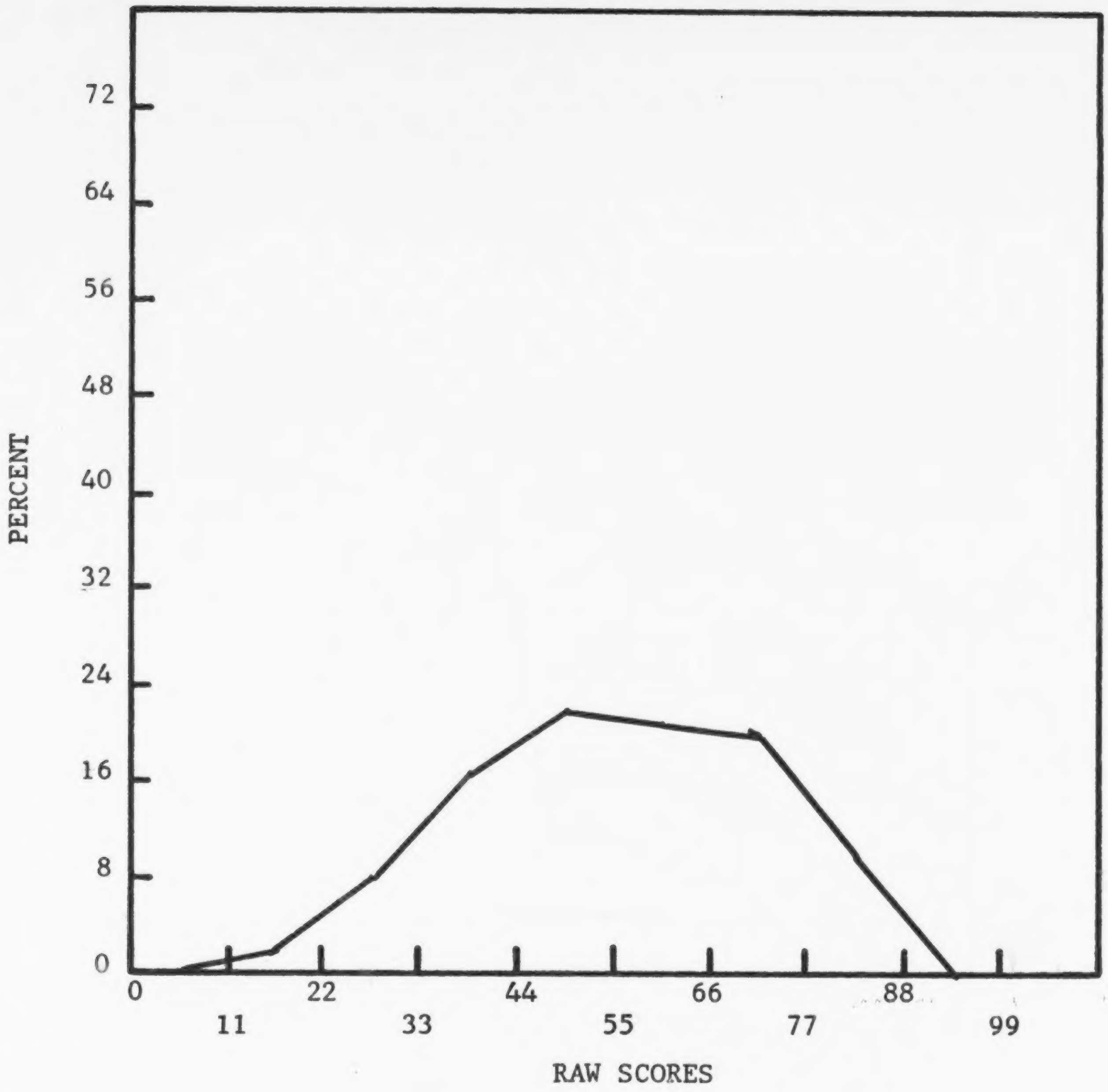
VARIABLE		r
45.	Absentee Rate	-.357
25.	Retention Rate	-.278
41.	Teacher Aspiration	-.230
34.	Starting Salary	-.143
22.	Enrollment	-.116

When submitted to regression analysis, variables 11, 12, 41, 28, 16, and 21 made significant contributions to the resulting multiple R = .814, accounting for 66% of the explained variance.

GOAL III - Grade 11

The distribution of pupil scores is symmetrical and approximately normal about a mean of 55.07 ($\sigma = 16.86$). Approximately 99% of the scores fall between 11 and 87, out of a possible range of 0 to 97, suggesting that the test provides an ample scope for measuring the academic achievement of most of the students. Figure 11 illustrates the distribution.

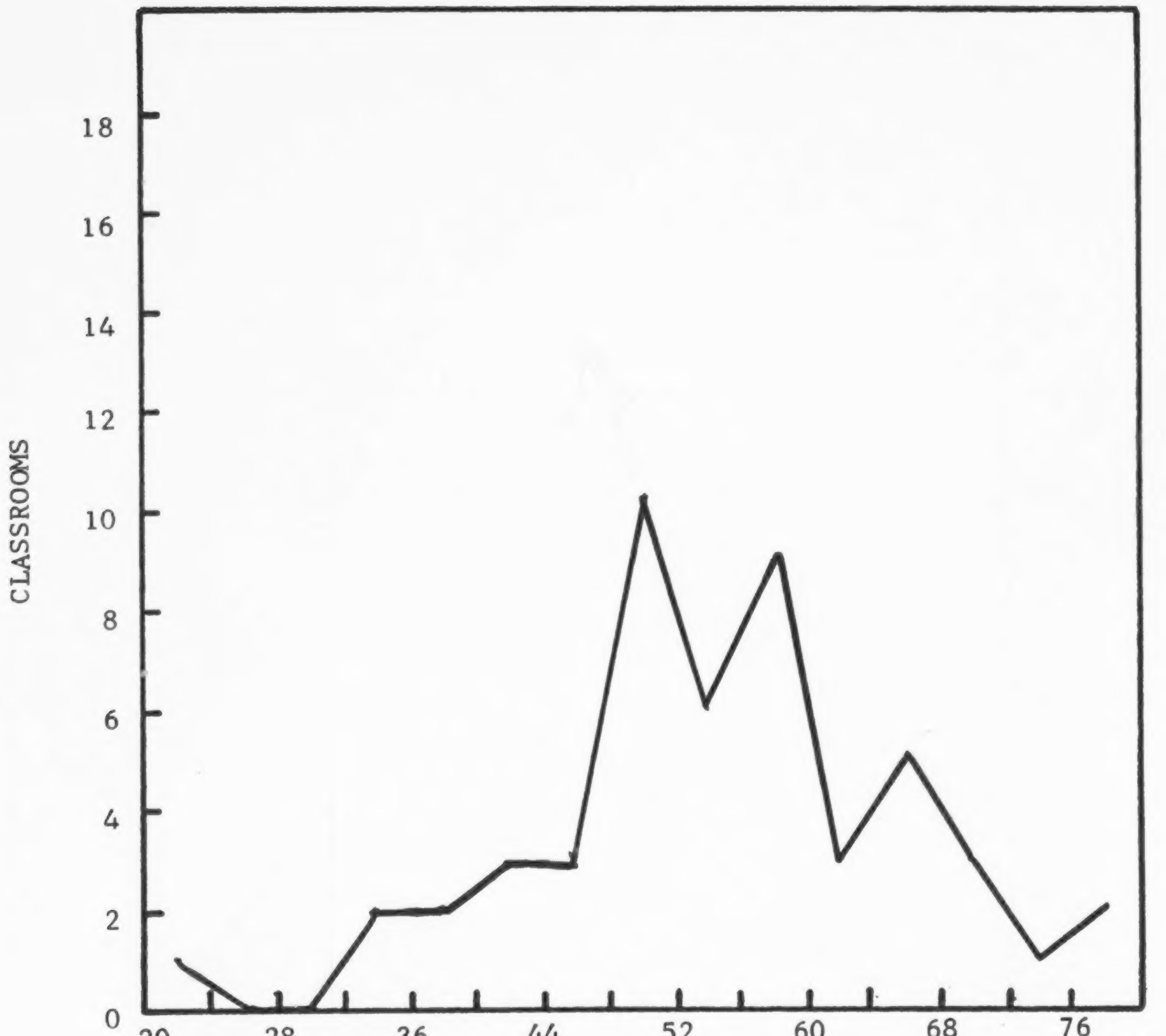
Figure 11. Distribution of Pupil Scores



GOAL III - Grade 11

The classroom mean scores range from 32.750 to 78.655 with the exception of one classroom mean at 21.083. Twenty-eight of the classroom means fall into the range of 48 to 60 about a pupil mean of 55.07. Figure 12 illustrates the distribution.

Figure 12. Distribution of Class Means



DISCUSSION

Implications from the Goal III findings confirm many widely held views about scholastic achievement and differ in important aspects from other generally held views. The most consistent and largest set of common variance at both grade levels is represented by a student's level of previous learning and by his socioeconomic status, even though measurement of each of these variables was undeniably gross and wanting in precision. If we expect to improve student performance in basic skills, programs must be designed which can be effective in spite of relatively low previous learning levels and socioeconomic status.

Student condition variables seem to have a greater affect on Basic Skills performance at the Grade 11 level than at the Grade 5 level, supporting the belief that these factors have a cumulative affect over time. It is also plausible, however, and has been shown to be possible, that not only achievement but also intellectual potential can be modified by the school process. Fruitful experimentation with school programs needs to focus on improving intellectual functioning or upon better utilization of existing intellectual functioning.

The failure of any cost factor to relate significantly at the Grade 5 level raises questions about the influence of cost on quality in educational matters. One possible explanation for the lack of relationship between money spent and pupil achievement may lie in the causes of variation in expenditures. The money spent on educational matters may vary according to such factors as cost of living, institutional tradition, community tradition, and occupational influences, rather than according to what occurs in the classroom.

The existence of low but positive correlations between cost factors and Basic Skills at the Grade 11 level suggests that whatever influence is common to both variables must operate over a considerable period of time before this influence can be measured.

Significantly negative correlations are found between Goal III and teacher salaries, availability of counselors, enrollment and absentee rate. Further analysis of these findings reveals that starting salaries, counselor ratios, enrollment and absentee rate are highest in urban areas with concentrations of low socioeconomic groups. At the same time it is in these areas where achievement scores in the basic skills are lower.

The Counselor to Students Ratio, while negatively and significantly correlated at the Grade 5 level, does not correlate at the Grade 11 level with Goal III. The manner in which elementary counselors are made available should, perhaps, be taken into consideration. Elementary counselors are found most frequently in areas where student achievement is generally not high, because federal funding, with emphasis upon aiding the so-called deprived student, has provided for counseling positions.

In conclusion, it appears that very substantial proportions of student academic achievement, as measured for Goal III, are explained by individual student variability rather than by school and community differences. Efforts to improve educational quality must concentrate upon altering the influences of the underlying causes of low achievement. However, there is enough variability among schools to suggest that there is some room for differing school conditions and programs to have an effect.

GOAL IV

QUALITY EDUCATION SHOULD HELP EVERY CHILD ACQUIRE A POSITIVE ATTITUDE TOWARD SCHOOL AND TOWARD THE LEARNING PROCESS.

In the positive aspect of this dimension, the student will view education as being helpful and/or necessary to his obtaining a job, making decisions as a voter, enjoying leisure time activities, keeping informed of world events, participating effectively in community affairs and maintaining a home of his own. He will express the interest and desire to graduate from high school, consider school and learning interesting, valuable, pleasant and active, express the opinion that learning does not end where formal education ends, and express the desire to return to some type of educational setting from time to time as an adult.

Measurement in Goal IV for Phase I consists of twenty-nine (29) items for the fifth grade student and thirty-nine (39) items for the eleventh grade student on the Pennsylvania Student Questionnaire. Questions center about the student's attitude toward the importance of education, his interest in school and learning, and his self concept as a learner.

Students are asked to respond to situations such as:

A. How important is it to you to do your homework well?

B. Do you think it will be important for you to go back to school from time to time in order to keep up in your job?

C. Do you feel you would like to quit school now or as soon as you are sixteen?

PHASE I FINDINGS

GRADE 5

Correlations between Goal IV and each of the other output measures are positive and significant, ranging from r = .242 with Goal VIII to r = .358 with Goal V. The r = .594 between Goal I and Goal IV, not included in the range, is spuriously high because eight of the measuring items are identical.

Student variables which correlate significantly with Goal IV are:

VARIABLE		r
11.	Level of Previous Learning	.236
13.	Educational Level of Father	.193
14.	Educational Level of Mother	.158
12.	Occupational Level of Father	.150

School and community variables which correlate significantly with Goal IV are:

VARIABLE		r
18.	Location	.161
32-Sa.	Teaching Experience	.143
33a.	Teacher Experience in Present System	.138
16.	Racial Composition	.115
32-Sc.	Teaching Experience	.115
43.	Teacher Perception of Policy Making Groups	.111

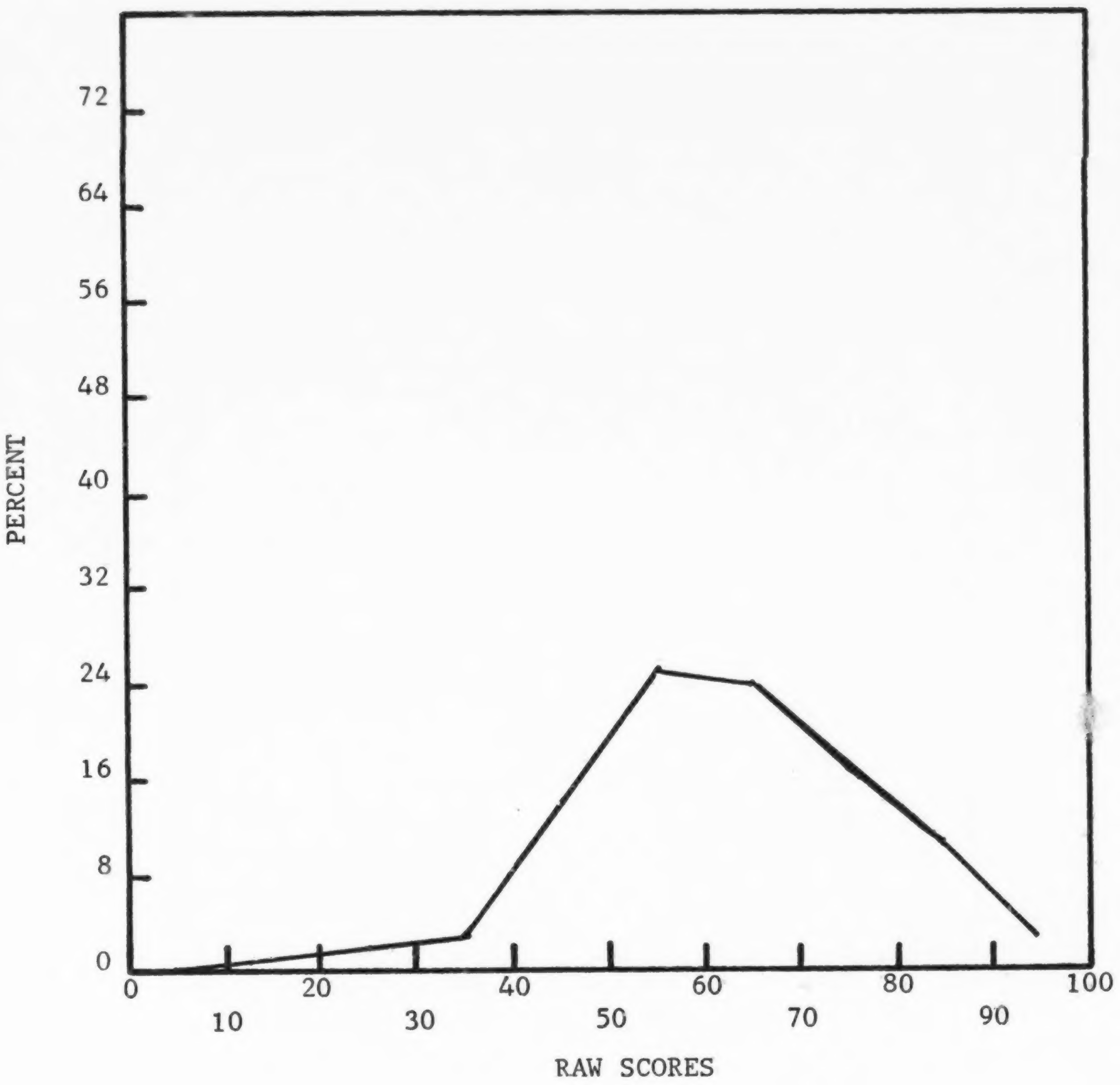
Significantly correlated, but negatively, is (37) Teacher Background, r = -.131.

When submitted to regression analysis, variables 11, 13, 32-Sa, and 18 contributed significantly to a multiple R = .302, explaining 9% of the total variance.

GOAL IV - Grade 5

The pupil scores distribute themselves from 10 to 97 with a mean of 61.46 ($\sigma = 15.44$). The highest possible score is 97. With this range of scores, it is apparent that ample room is available within the range to account for individual differences. Negative skewedness is apparent but is very moderate. Figure 13 illustrates the distribution.

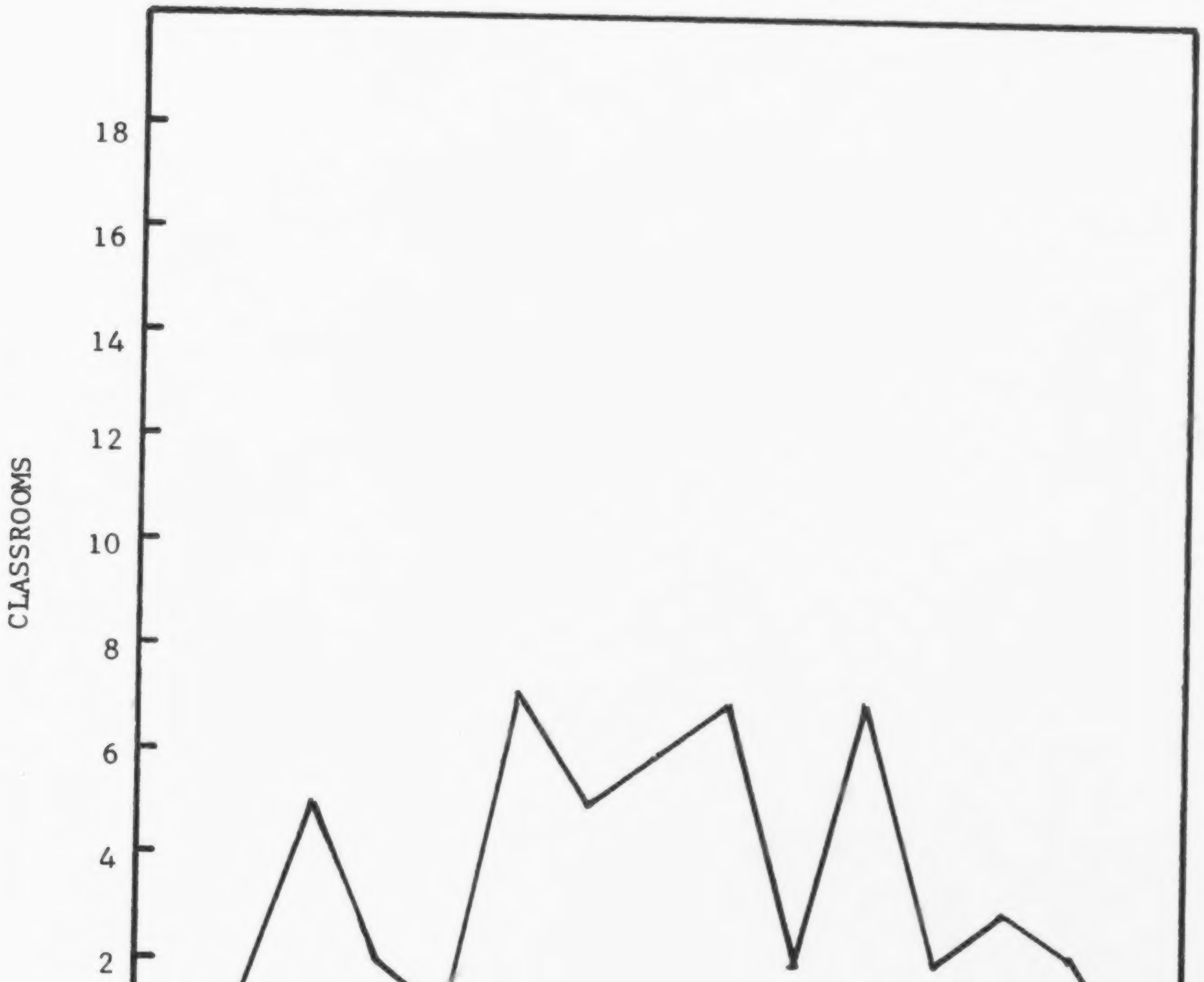
Figure 13. Distribution of Pupil Scores



GOAL IV - Grade 5

The means of the classrooms range between 49.889 and 73.793. The classroom means do not cluster about the pupil mean of 61.46 but are spread throughout the range. Figure 14 illustrates this spread.

Figure 14. Distribution of Class Means



GRADE 11

Correlations between Goal IV and each of the remaining output measures are all significant and positive, ranging from r = .146 with Creativity Output to r = .456 with Goal V. The r = .557 between Goal IV and Goal I and the r = .596 between Goal IV and Goal X are not included in the range. These three goals are conceptually related, having in common the idea of continued schooling and/or satisfaction with the school experience. These three goals, likewise, have measurement items in common, resulting in spuriously high correlations.

Student condition variables relating significantly to Goal IV are (17-1) School Mores (Idealistic), .327, (17-R) School Mores (Realistic), .344, and (11) Level of Previous Learning, .188.

The single school variable which relates significantly to Goal IV is (28) Staff to Pupils Ratio, .112.

The following variables were submitted to regression analysis:

VARIABLE		r
11.	Level of Previous Learning	.188
28.	Staff to Pupils Ratio	.112
41.	Teacher Aspiration	-.104
12.	Occupational Level of Father	.102
23.	Per-Pupil Instructional Costs	.094
30.	Counselor to Students Ratio	.083
27.	Innovative Scale	.074
20.	Housing Types	-.073

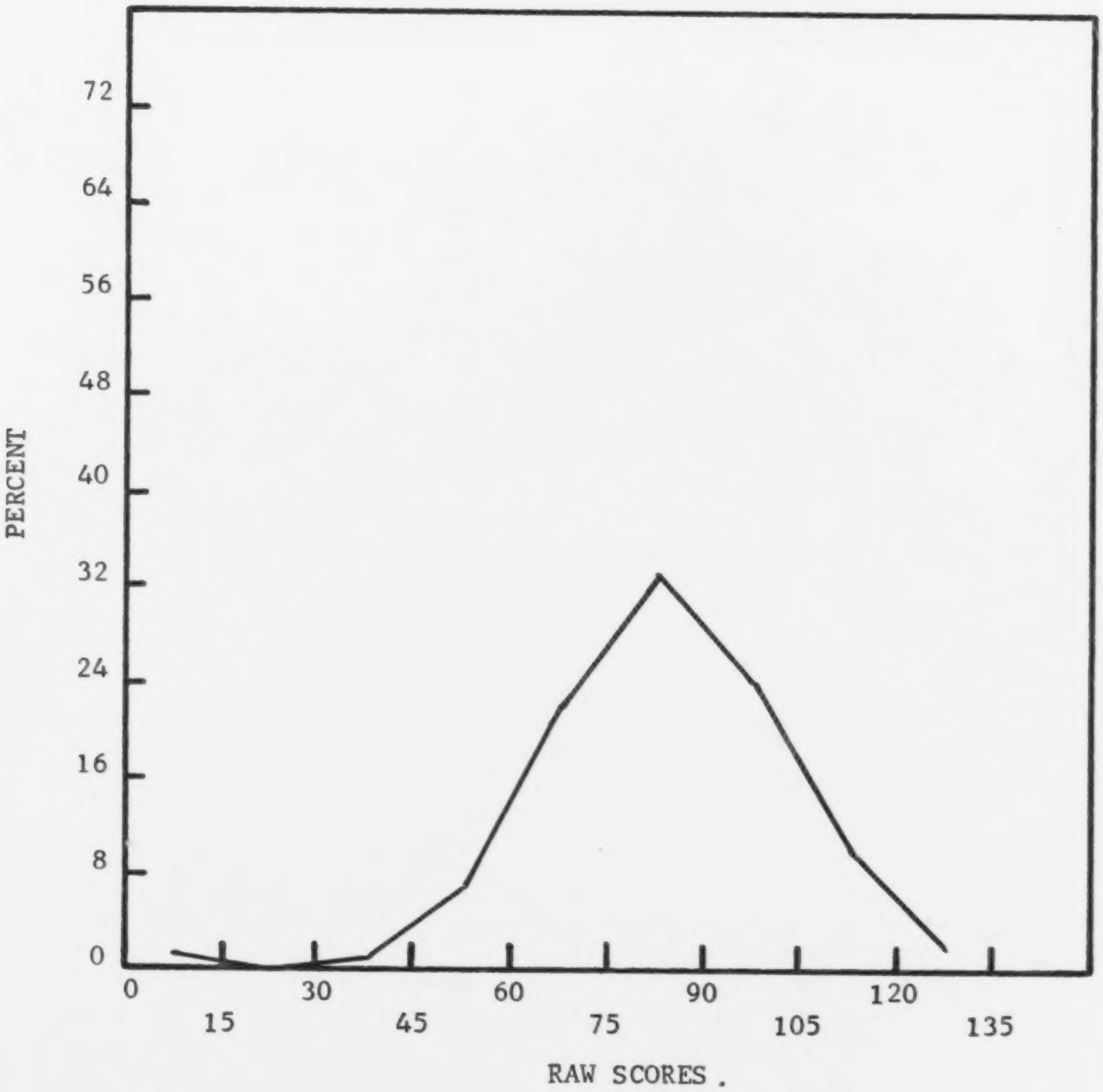
Variables 11, 41, 30, 20, 27, and 23 contributed significantly to a multiple R = .279, explaining approximately 8% of the total variance.

It must be noted, however, that of the six contributing variables, only variable 11 is greater than .111, that point representing the level of significance specified for zero order correlations (p = .0001). Although each of the remaining contributing variables is significant at the 5% level, it is quite possible that the only substantial contributor to the explained variance is (11) Level of Previous Learning.

GOAL IV - Grade 11

The pupil scores range from 0 to 132 with a mean of 83.57 ($\sigma = 18.19$). Approximately 97% of the scores fall between 30 and 119. There seems to be ample range for individual difference to appear on the measure. The distribution, illustrated in Figure 15, is somewhat negatively skewed although it approaches normality and symmetry.

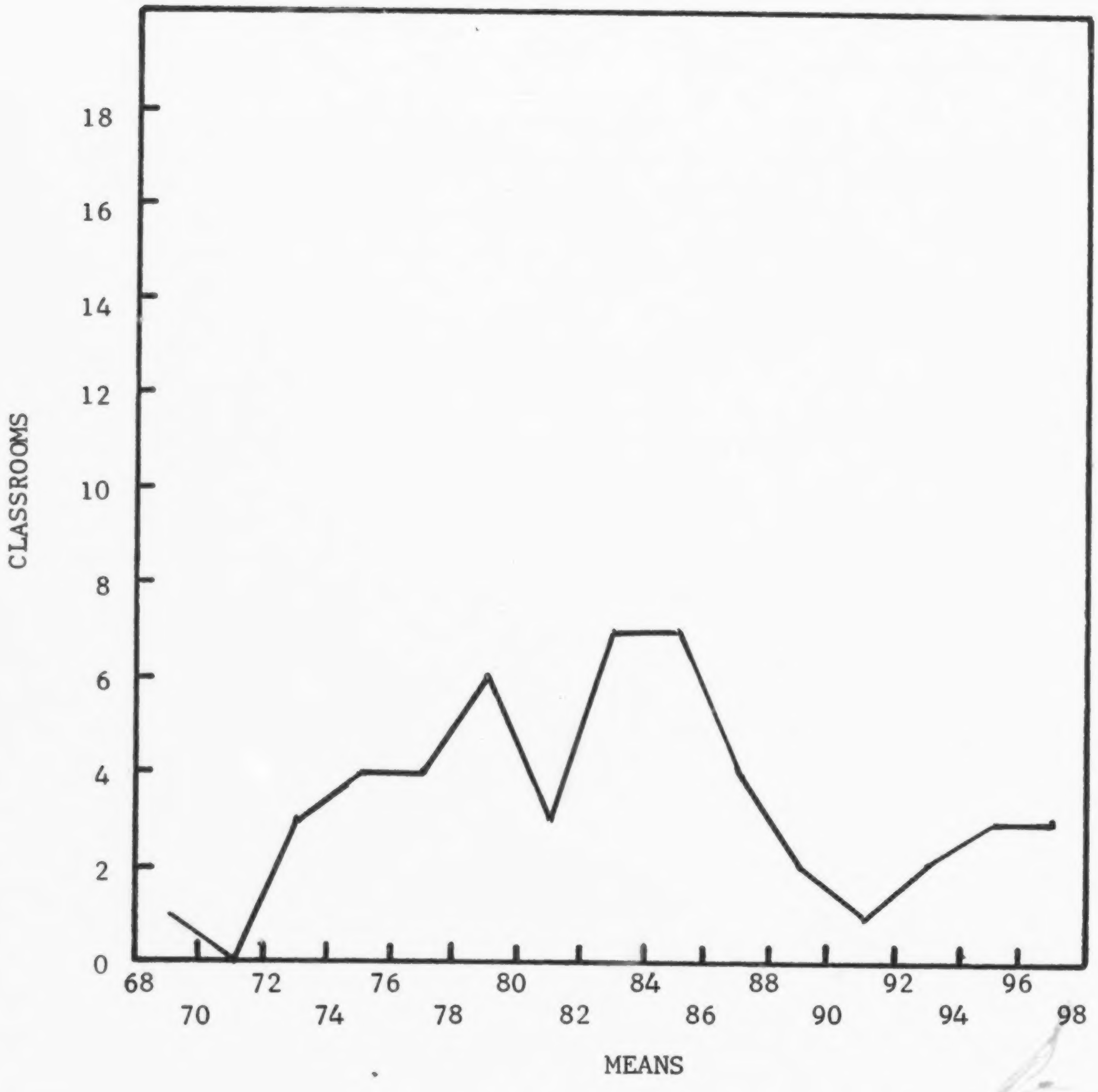
Figure 15. Distribution of Pupil Scores



GOAL IV - Grade 11

The mean scores of the classrooms range from 69.429 to 97.455. The means are spread throughout the range and do not cluster around the pupil mean of 83.57. This spread is seen in Figure 16.

Figure 16. Distribution of Class Means



ITEM ANALYSIS

Item analysis reveals, at both grade levels, that each of the items on the Goal IV instruments shows a significantly positive correlation with the total score. For the Grade 5 instrument, the item to total correlations range from r = .355 to r = .497, with an average r = .430. For the Grade 11 instrument, the item to total correlations range from r = .296 to r = .558, with an average r = .440.

DISCUSSION

At both grade levels, highly significant correlations occur between Goal IV and Goal II, Understanding Others, and between Goal IV and Goal V, Good Citizenship. Achievement in each of these areas is expressed through human interaction within the framework of the school. Higher scores on each of these measures may represent an attitude of essential trust in people. For example, when a pupil says he likes to talk with his teacher about his ideas (Goal IV), he would like to get acquainted with a student of a different religious background (Goal II), and he is willing to discuss an unpopular school rule with the principal (Goal V), he is demonstrating an attitude of basic trust in others.

At both grade levels, relatively less significant correlations occur between Goal IV and Goal III, Basic Skills, between Goal IV and Goal VI, Health Habits, and between Goal IV and Goal IX, Appreciation and Understanding of Human Accomplishments. Because achievement in Goals III, VI, and IX reflects test taking abilities and reading skills, it appears that other factors are represented in expressing an interest in school and learning.

GOAL V

QUALITY EDUCATION SHOULD HELP EVERY CHILD ACQUIRE THE HABITS AND ATTITUDES ASSOCIATED WITH RESPONSIBLE CITIZENSHIP.

What are the habits and attitudes associated with responsible citizenship? The student who is fulfilling the requirements of Goal V is willing to assume responsibility for his actions as well as the actions of the groups with whom he is associated. He is willing to cooperate for the achievement of desirable group goals, even though to do so he may have to sacrifice some of his own desires.

The responsible citizen demonstrates integrity in his everyday dealings with others. When his abilities so dictate, he assumes leadership for group action. Otherwise, he lends support to group efforts as a follower. In order to make appropriate, reasonable decisions, the responsible citizen makes every effort to be informed by listening and reading. He takes an interest in his community and indicates a willingness to labor in order to provide for himself and his family.

The responsible citizen recognizes that our democratic system is not perfect and, as such, is in need of change from time to time. He voices his criticism in a rational manner and works through group activity within the framework of the existing government to bring about changes.

Measurement in Goal V for Phase I consists of thirty-seven (37) items on the Pennsylvania Opinion and Interest Survey. Students are asked to respond to situations such as:

A. When my parents give me a job to do, I do it.

B. If I broke something small, like a dish, I would not tell anyone.

C. Doing a job well makes a person feel pretty good.

D. I would like to live my life without ever having to get a job and go to work.

PHASE I FINDINGS

GRADE 5

Correlations between Goal V and each of the other output measures are significant and positive, ranging from r = .240 with Goal VI to r = .498 with Goal VII.

The student condition variables which correlate significantly and positively with Goal V are:

VARIABLE		r
11.	Level of Previous Learning	.417
13.	Educational Level of Father	.258
12.	Occupational Level of Father	.225
14.	Educational Level of Mother	.194

Significant, positive correlations are found between Goal V and the following school, staff and community variables:

VARIABLE		r
16.	Racial Composition	.340
32-Sa.	Teaching Experience	.168
33a.	Teacher Experience in Present System	.163
33b.	Teacher Experience in Present Position	.159
32-Sc.	Teaching Experience (School)	.146
26.	Books to Student Ratio	.129
31-Sc.	Teacher Educational Level (School)	.121
20.	Housing Types	.116
35.	Teacher Age	.115

Significant, negative correlations are found between Goal V and the following school and staff variables:

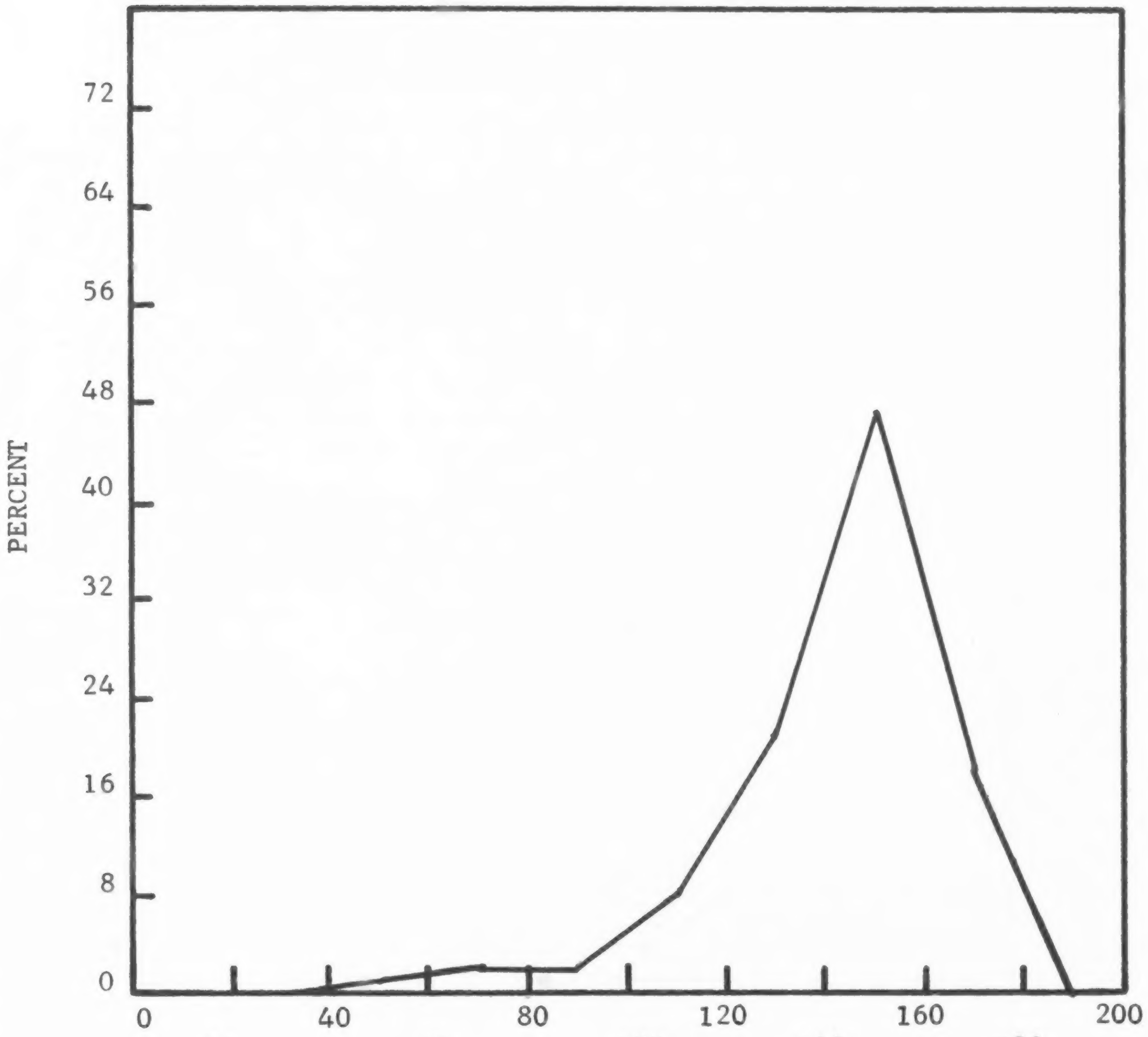
VARIABLE		r
22.	Enrollment	-.177
30.	Counselor to Students Ratio	-.167
34.	Starting Salary	-.159
41.	Teacher Aspirations	-.148
45.	Absentee Rate	-.145

Variables 11, 16, 13, 32-Sa, 22, and 30 were submitted to regression analysis. Variables 11, 16, 13 and 30 contributed significantly to the multiple R = .488, explaining 24% of the total variance.

GOAL V - Grade 5

The distribution of pupils scores is concentrated about the mean of 142.4 (σ = 21.38). Approximately 47% of the scores fall between 140 and 159. Approximately 86% of the scores fall between 120 and 179 out of a possible range of 0 to 185. The measure seems to provide scope for individual differences. Figure 17 illustrates the distribution.

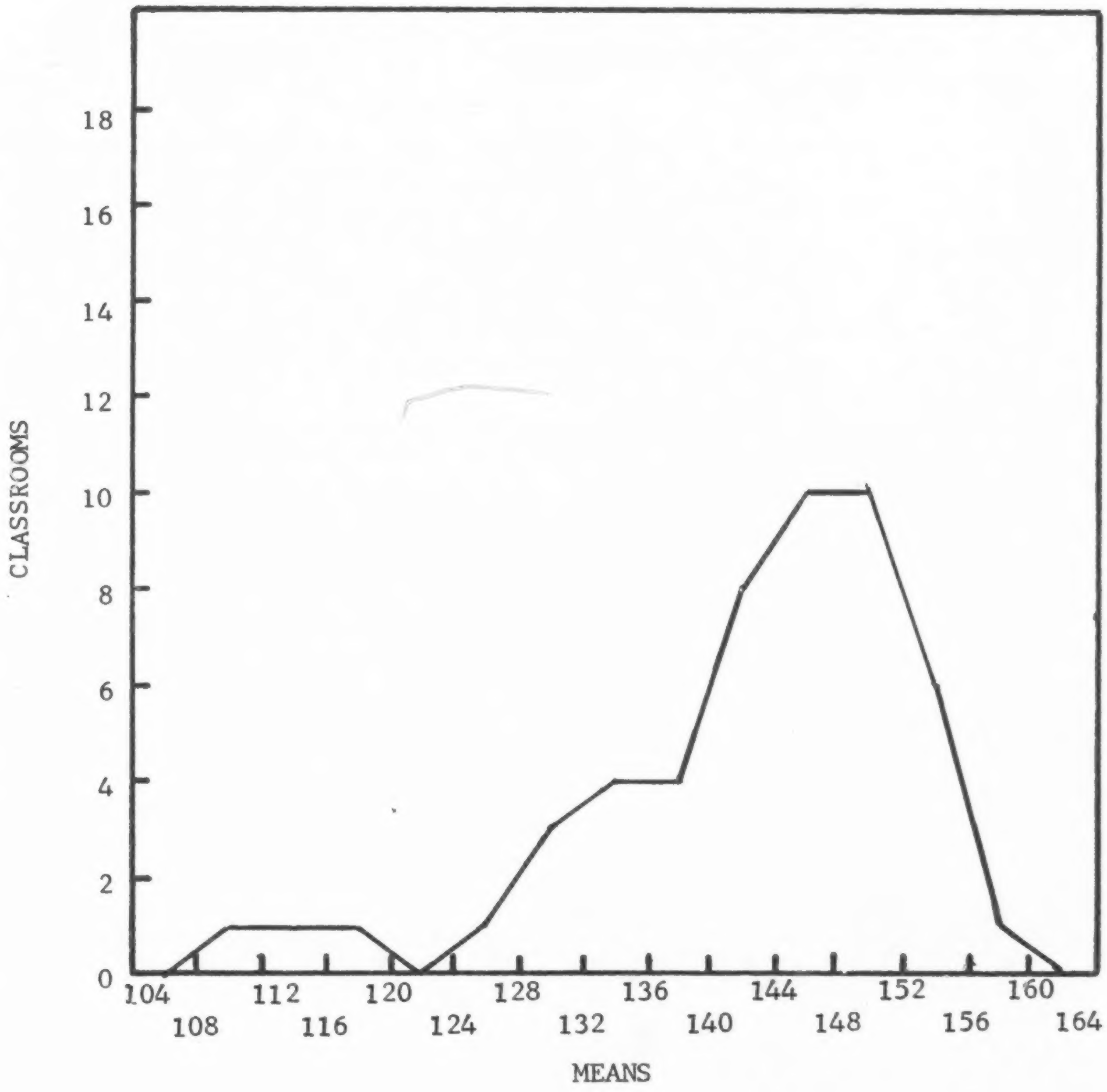
Figure 17. Distribution of Pupil Scores



GOAL V - Grade 5

The distribution of classroom mean scores, presented in Figure 18, is negatively skewed. Thirty-one classroom means fall above the pupil mean of 142.4 while nineteen means fall below the pupil mean. Twenty of the 50 mean scores fall between 144 and 152.

Figure 18. Distribution of Class Means



GRADE 11

Correlations between Goal V and each of the other output measures, with the exception of Creativity Output, are significant and positive, ranging from r = .203 with Goal IX to r = .456 with Goal IV.

Goal V correlates significantly and positively with the following student condition variables:

VARIABLE		r
17-I.	School Mores (Idealistic)	.252
17-R.	School Mores (Realistic)	.210
11.	Level of Previous Learning	.197
12.	Occupational Level of Father	.134

The only school and staff variable which correlates significantly and positively with Goal V is (24) Holding Power, .126.

Significant, negative correlations are found between Goal V and the following school and staff variables:

VARIABLE		r
45.	Absentee Rate	-.140
34.	Starting Salary	-.128
25	Retention Rate	-.126

Variables 11, 12, 24, 45, 34, and the following were submitted to regression analysis:

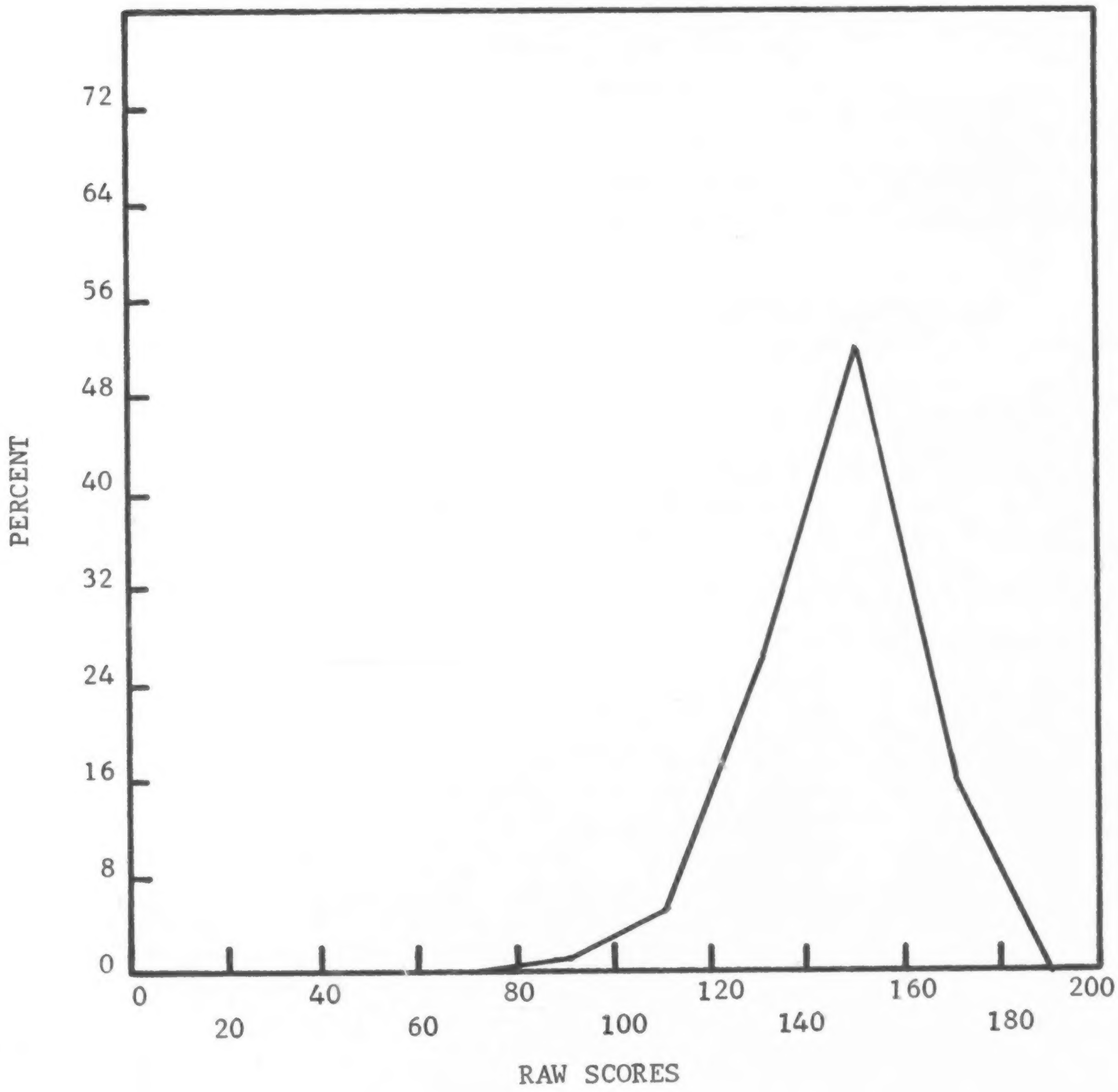
VARIABLE		r
16.	Racial Composition	.109
28.	Staff to Pupils Ratio	.105
23.	Per-Pupil Instructional Cost	.099
21.	Effort Index	.093

Variables 11, 12, 24, 45, 34, and 16 contributed significantly to the multiple R = .252, accounting for 6% of the total variance.

GOAL V - Grade 11

The distribution of pupil scores is heavily concentrated about the mean of 144.4 ($\sigma = 17.76$) with a possible range of 0 to 185. Approximately 52% of the scores fall between 140 and 159 and approximately 94% of the scores fall between 120 and 179. Latitude for individual differences seems to exist. Figure 19 illustrates the distribution.

Figure 19. Distribution of Pupil Scores



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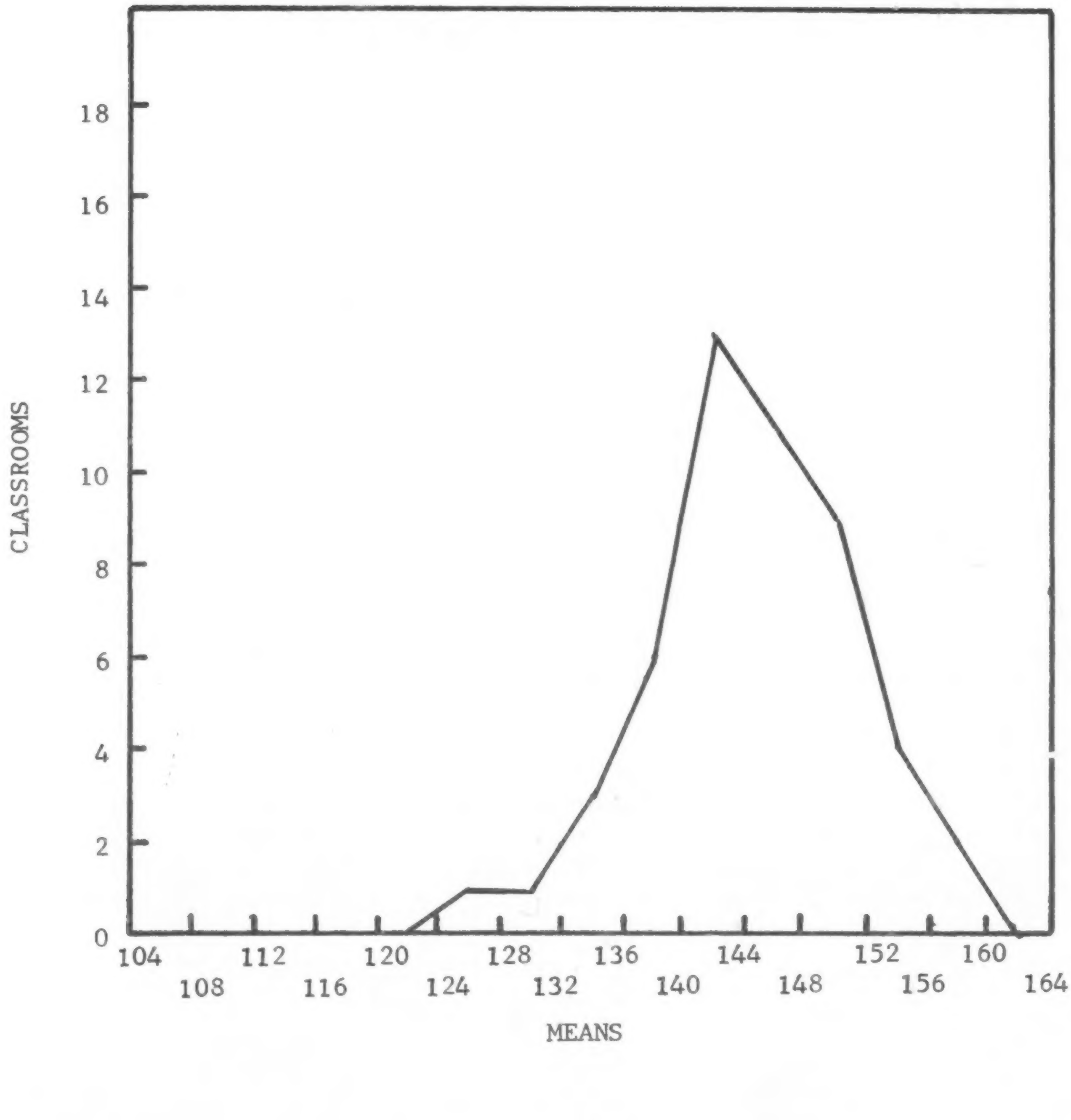
GOAL V - Grade 11

The classroom mean scores range from 125.428 to 156.864 about a pupil mean of 144.4. Thirty-three classroom means fall between 140 and 152. Figure 20 illustrates the distribution.

Figure 20. Distribution of Class Means



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ITEM ANALYSIS

Item analysis reveals that for the Grade 5 Citizenship Application instrument, 18 of the 20 items have significantly positive correlations with the total score, ranging from r = .112 to r = .657. One item does not correlate significantly and a second item correlates significantly and negatively, r = -.188. For the Grade 11 Citizenship Application instrument, 19 of the 20 items have significantly positive correlations with the total score, ranging from r = .174 to r = .572. One item does not correlate significantly.

The item, "I let someone else do the leading even when I know it better, or can do it better than he can", does not relate to the total score at Grade 11 but relates negatively to the total score at Grade 5. Another item within the same content area, "It doesn't matter what is going on. I like to be the leader and tell others what to do", relates positively to the total score at Grade 11 but does not relate to the total score at Grade 5.

Item analysis reveals that for the Citizenship Attitude instrument, all 17 items have significantly positive correlations with the total score, ranging from r = .117 to r = .660 at the Grade 5 level and r = .302 to r = .660 at the Grade 11 level.*

DISCUSSION

Analysis of the Phase I Findings indicates that the student who displays to a higher degree the habits and attitudes associated with responsible citizenship is the same student who achieves to a higher degree in each of the other goal areas, with the exception of Creativity Output.

At the Grade 5 level, family factors such as parental educational and occupational levels and teacher factors such as experience and educational degree levels appear to be associated with the attainment of good citizenship habits and attitudes. At the Grade 11 level, however, the educational level of the parents and the teacher factors cease to be significant and the school mores factor emerges as significant.

Where students respond that being bright and interesting rather than coming from the "right family" is the way or should be the way to gain admiration from peers, citizenship scores are higher.

The percentage of whites in the classroom appears to have a relationship to achievement on the Goal V instrument at both grade levels, but the relationship is most significant at the Grade 5 level. This finding warrants further investigation into the rationale behind the measuring device. Are the measured habits and attitudes associated with responsible citizenship those habits and attitudes to which the nonwhite culture subscribes or should subscribe? Relevancy becomes a particularly poignant issue where attitudes and habits are being assessed among cultures.

The Goal V findings support the hypotheses that where absentee rates and retention rates are higher, achievement is lower, and where the rate of high school graduates is higher, achievement is higher. There is no relationship between the percentage of students attending post-high school institutions and the attainment of good citizenship habits and attitudes.

Three significant negative correlations have been analyzed further. It appears that where starting salaries are highest, elementary counselors are more plentiful, and enrollment is higher, citizenship achievement is lower. Further analysis shows that these relationships can be explained in part by the fact that it is in urban areas where achievement is lowest, and it is also in urban areas where starting salaries are highest, counselors are plentiful and enrollment is highest.

*

It should be noted that, for purposes of multivariate analysis and discussion, the Goal V Attitude and Application subtest scores are combined into a total score. Item analysis, however, is treated separately for each subtest. If the reader cares to examine the correlations between the subtests and other variables, Appendix H contains the correlation matrices.

GOAL VI

QUALITY EDUCATION SHOULD HELP EVERY CHILD ACQUIRE GOOD HEALTH HABITS AND AN UNDERSTANDING OF THE CONDITIONS NECESSARY FOR THE MAINTAINING OF PHYSICAL AND EMOTIONAL WELL-BEING.

Facts and understandings about anatomy and physiology, diseases and their prevention, emotional and social adjustment, environmental hygiene, food and nutrition, personal hygiene and first aid and safety are all essential requirements for the successful achievement of Goal VI.

In his own interest as well as in the interest of society at large, a pupil should know how to keep himself mentally and physically fit. He should have awareness of these practices which may be harmful to his physical and mental well-being as well as those practices which may be beneficial.

Measurement in Goal VI for Phase I consists of forty (40) items for the fifth grade student and seventy-five (75) items for the eleventh grade student on the California Health Behavior Inventory.

Students are asked to respond to situations such as:

A. John has a severe cold. If you were John, you would

1. Take a bath
2. Go to bed
3. Put on warmer clothes
4. Go to the drugstore for cough syrup

B. Sue and John were invited to a large picnic. They have learned that certain foods are potential sources of food poisoning. Which one of the following foods should they avoid if refrigeration is impossible?

1. Chicken Salad
2. Watermelon
3. Bologna
4. Lettuce
5. Tomatoes

PHASE I FINDINGS

GRADE 5

Correlations between Goal VI and seven of the remaining output measures are relatively low but significantly positive, ranging from r = .123 with Goal X to r = .291 with Goal IV. Correlations between Goal VI and Goal III and between Goal VI and Goal IX are insignificant.

Only one condition variable, (32-Sa) Teaching Experience, r = .118, relates significantly to the attainment of good health habits.

The following six variables were submitted to regression analysis:

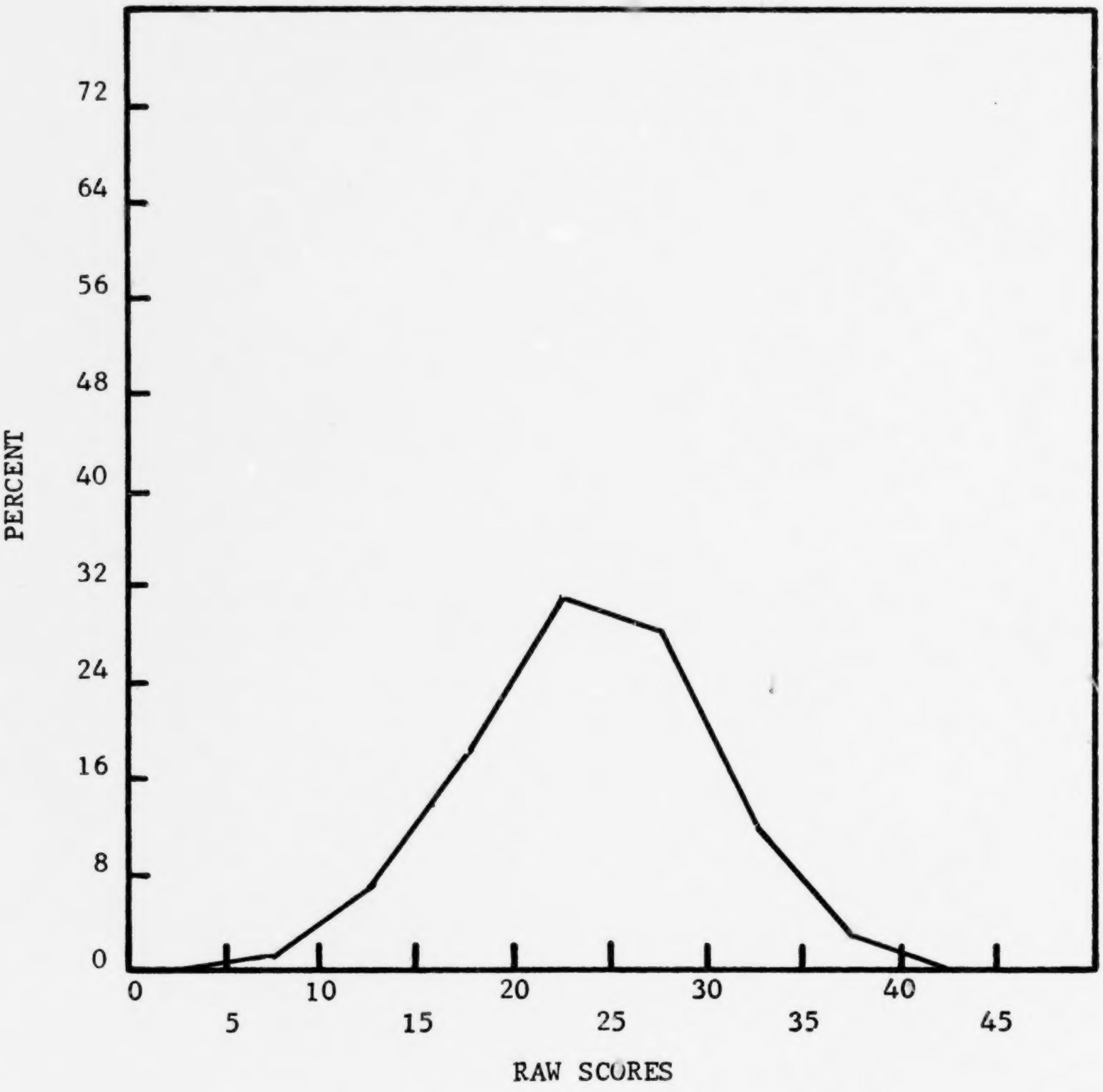
VARIABLE		r
32-Sa.	Teaching Experience	.118
12.	Occupational Level of Father	.077
35.	Teacher Age	.070
16.	Racial Composition	.069
11.	Level of Previous Learning	.065
30.	Counselor to Students Ratio	-.059

Variables 32-Sa, 12, and 35 contributed significantly to the multiple R = .142, explaining 2% of the total variance.

GOAL VI - Grade 5

The distribution of pupil scores approaches normality. Approximately 96% of the pupil scores fall between 10 and 34 with the total possible score being 40. The mean is 23.06 ($\sigma = 6.19$). There seems to be latitude on the scale for individual differences. Figure 21 illustrates the distribution.

Figure 21. Distribution of Pupil Scores

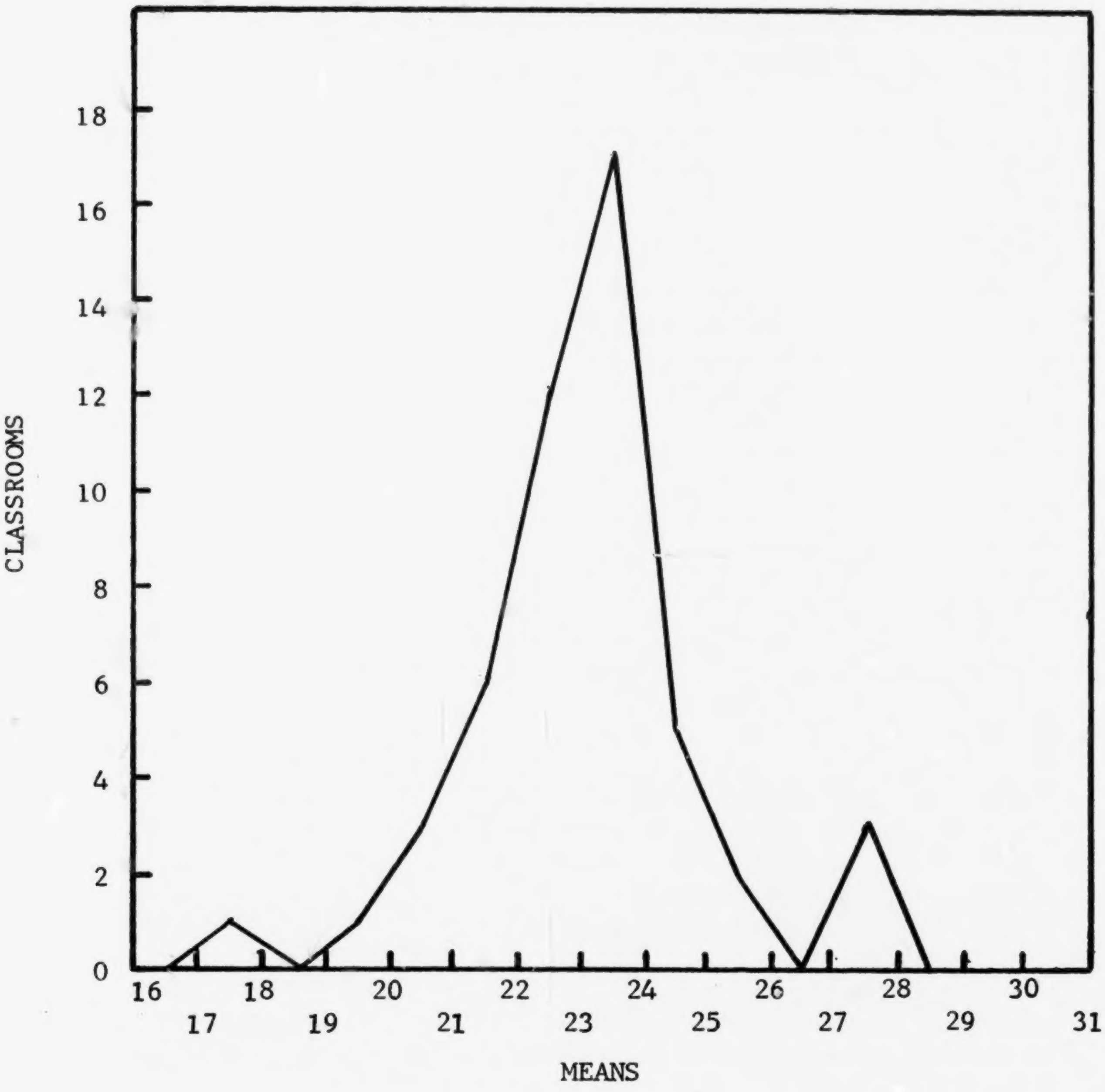


62

GOAL VI - Grade 5

The distribution of classroom mean scores reveals that 17 of the 50 classrooms have mean scores within the 23 to 24 range while the overall range is 17.786 to 27.250. There are 23 class means below the pupil mean of 23.06 and 27 above the pupil mean. The distribution is presented in Figure 22.

Figure 22. Distribution of Class Means



GRADE 11

Correlations between Goal VI and each of the other output measures, with the exception of Creativity Output, are significant and positive, ranging from r = .216 with Goal I to r = .637 with Goal III.

The student condition variables which correlate significantly and positively with Goal VI are:

VARIABLE		r
11.	Level of Previous Learning	.539
12.	Occupational Level of Father	.236
14.	Educational Level of Father	.204
13.	Educational Level of Mother	.178

The following school, staff and community variables correlate significantly and positively with Goal VI:

VARIABLE		r
16.	Racial Composition	.293
15.	Continuing Education	.239
24.	Holding Power	.211
19.	Population Trend	.169
21.	Effort Index	.155
42.	Teacher Perception of School Climate	.153
23.	Per-Pupil Instructional Cost	.142
20.	Housing Types	.117
28.	Staff to Pupils Ratio	.115

Significant, negative correlations are found between Goal VI and the following school and staff variables:

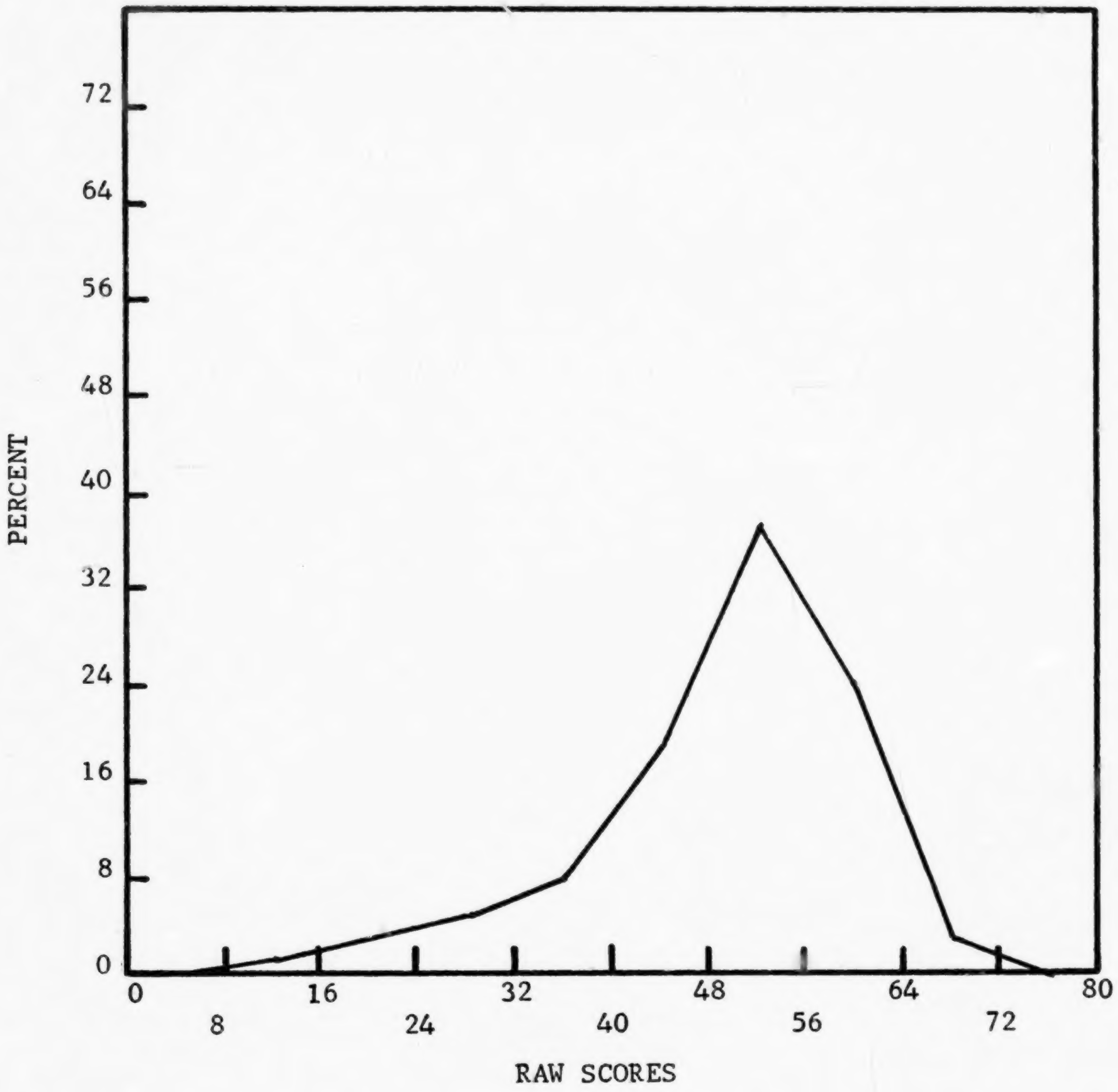
VARIABLE		r
45.	Absentee Rate	-.274
25.	Retention Rate	-.257
41.	Teacher Aspirations	-.177
22.	Enrollment	-.124
34.	Starting Salary	-.122

Variables 11, 16, 45, 15, 12, 24, 19, and 21 were submitted to regression analysis. Variables 11, 45, and 15 contributed significantly to R = .553 and accounted for 31% of the total variance.

GOAL VI - Grade 11

The distribution of pupil scores is negatively skewed. Approximately 64% of the pupils scores are above the mean of 48.64 ($\sigma = 10.94$) while approximately 36% of the scores are below the mean. Approximately 96% of the scores are between 16 and 63 out of a possible range of 0 to 75 indicating ample latitude on the scale to measure individual differences. Figure 23 illustrates the distribution.

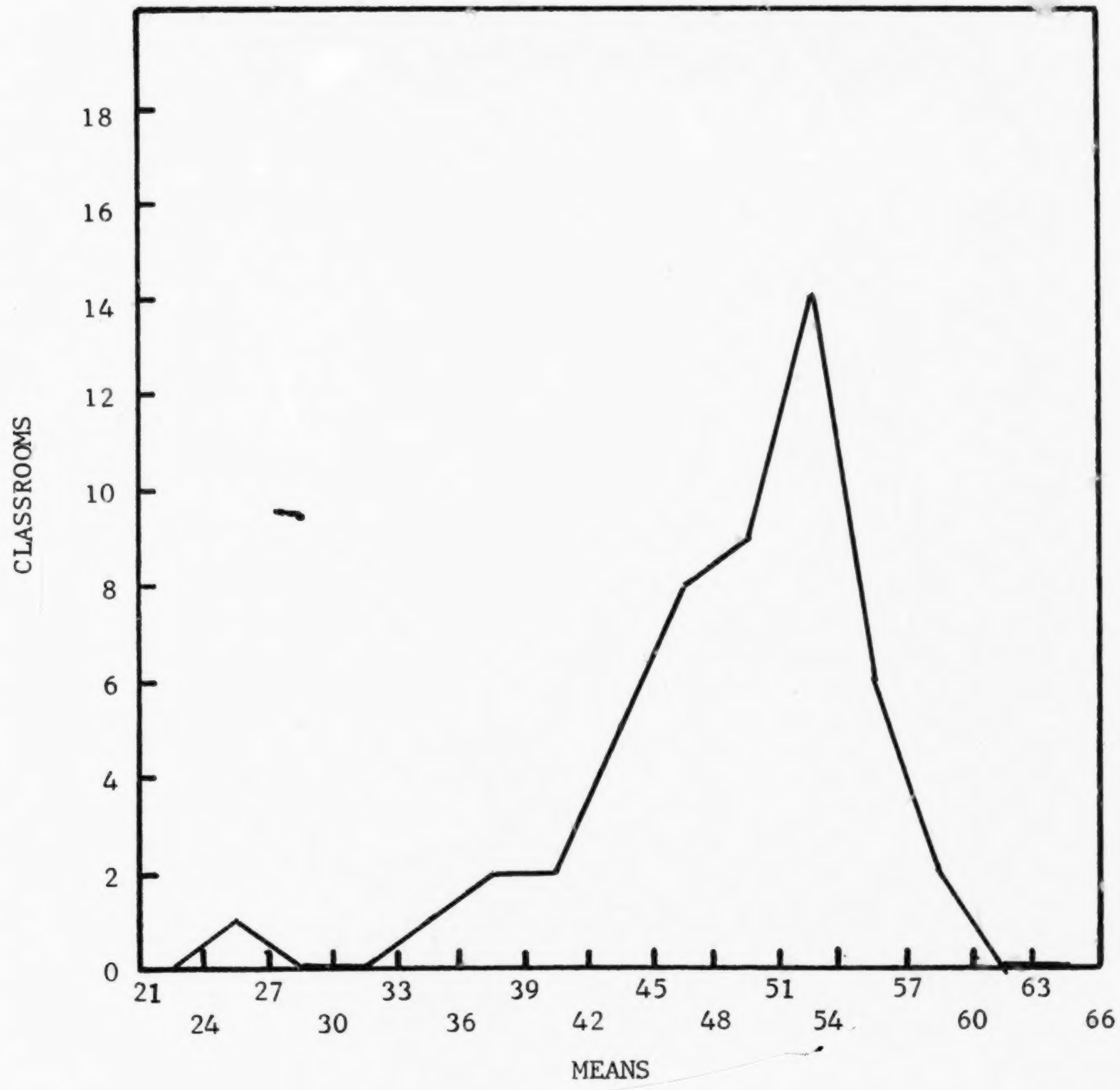
Figure 23. Distribution of Pupil Scores



GOAL VI - Grade 11

The distribution of classroom mean scores is negatively skewed. There are 29 classroom means above the pupil mean of 48.64 and 21 class means below the pupil mean. While the overall range was 24.083 to 58.897, only five classroom means fall below 42 and 42 of the 50 classroom means fall between 42 and 57. Figure 24 illustrates the distribution.

Figure 24. Distribution of Class Means



DISCUSSION

In reviewing the Phase I Findings, it appears safe to assume that the many school and community conditions which were thought to relate to fifth grade achievement in Goal VI, show practically no relationship. With only 2% of the variance explained by the more experienced teacher, the older teacher, and a higher occupational level of the pupil's father, 98% of the variance remains unexplained.

For the eleventh grade student, those factors which influence achievement in the area of basic skills are essentially the same factors which influence achievement in the area of health knowledge, the most significant conditions being the socioeconomic status of the student and his level of previous learning.

Further analysis of the Phase I Findings reveals that the eleventh grade student who has acquired good health habits more likely than not is in a classroom with a greater percentage of white pupils, and is in a school where the absentee rate is lower, the retention rate is lower, the percentage of students continuing their education is higher, and the holding power is higher.

GOAL VII

QUALITY EDUCATION SHOULD GIVE EVERY CHILD OPPORTUNITY AND ENCOURAGEMENT TO BE CREATIVE IN ONE OR MORE FIELDS OF ENDEAVOR.

Creativity has been defined by the Committee on Quality Education as encompassing worthwhile activities which a child initiates and pursues on his own. These activities have an outcome that is perceived by the child and by others as a contribution to some part of his world. Creative activities are found in a wide variety of fields including the arts, the sciences, in the organization of human affairs and in the development and exercise of salable skills.

The concept of measurement in the Goal VII area rests on a theoretical base which states that (1) there is a student potential for creative output, (2) there are conditions under which creative behavior is more likely to occur and (3) there are characteristics which seem common to creative production whether they be tangible or ideational products.

For the fifth grade student measurement in Goal VII for Phase I consists of sixty-three (63) items on the Pennsylvania Opinion and Interest Survey. The items are based on the following key ideas which are designed to characterize pupil potential for creativity:

Self Direction: The student is able to complete the task at hand by employing his own resources.

Evaluative Ability: The student recognizes that his own ideas have worth even if not approved by others, and expresses reasonable balance in opinions of his work.

Flexible Thinking: The student is not confined to a single approach to problems. He is willing to consider views different from his own, and is not adverse to shifting context in a discussion.

Original Thinking: The student is able to see new relationships, is willing to search for novel approaches, and is interested in making new compositions.

Elaborative Thinking: The student desires to develop projects beyond minimum requirements, and is interested in outcomes and implications.

Willingness to Take Risks: The student is not so sensitive to criticisms that he is not able to support his own view, is willing to accept a challenge, and is responsive to opportunities to set his own goals.

Ease with Complexity: The student likes to toy with complex ideas, enjoys coping with knotty problems and is challenged by complications.

Students are asked to respond to statements such as:

A. I would like to learn a new game even if I lose at it.

B. Toys that work should never be taken apart.

For the eleventh grade student, measurement consists of twenty-six (26) items on the Pennsylvania Opinion and Interest Survey designed to measure creative potential.

Students are asked to respond to questions such as:

A. Do you find that your interests tend to be pretty much the same from day to day and month to month?

B. How often do you try new food dishes that you have never eaten before?

In addition, eighty (80) items designed to assess creative output were administered to the eleventh grade student. The scale for judging the creative quality of output involves the following concepts:

An Occupationally Unique Product - the display of abilities which are not necessarily expected of a high school student

A New Approach - a purposeful search for a different pathway to the anticipated goal than that which has been commonly followed in the past

Original - a firsthand production, an independent or spontaneous project, not a copy

Originality - a supplement of the meaning of Original requiring freshness of aspect or design, newness of style or character

Adaptive - the modification of a method, artifact, or process conceived to serve a different purpose or to fit a new set of requirements quite unlike its original intent

Recognition - the achievement of the attention of appropriate segments of society through publication, a prize winning, being solicited for a showing of repeat performances or any of many commonly accepted methods of showing appreciation

Evocation of Feeling and Communication of an Idea - apply primarily to artistic works such as painting, sculpture, writing musical performance and dramatics

Students are asked to respond to questions such as:

A. Has any of your writing appeared in some form of publication?

B. Have you ever built a model of a vehicle or machine that was of your own design?

C. Have you ever won recognition in a public speaking contest?

PHASE I FINDINGS

GRADE 5

Significant, positive correlations are found between Goal VII and each of the other output measures. The correlations range from r = .150 with Goal VI to r = .498 with Goal V. The r = .547 between Goal VII and Goal X, not included in the range, is spuriously high because six of the measuring items are identical.

Goal VII correlates significantly and positively with the following student conditions:

VARIABLE		r
11.	Level of Previous Learning	.325
13.	Educational Level of Father	.226
12.	Occupational Level of Father	.194
14.	Educational Level of Mother	.183

Significant, positive correlations are found between Goal VII and the following community, school and staff variables:

VARIABLE		r
16.	Racial Composition	.258
32-Sa.	Teaching Experience	.190
33a.	Teacher Experience in Present System	.174
18.	Location	.159
33b.	Teacher Experience in Present Position	.150
35.	Teacher Age	.129
32-Sc.	Teaching Experience (School)	.125

Significant, negative correlations are found between Goal VII and the following school and staff variables:

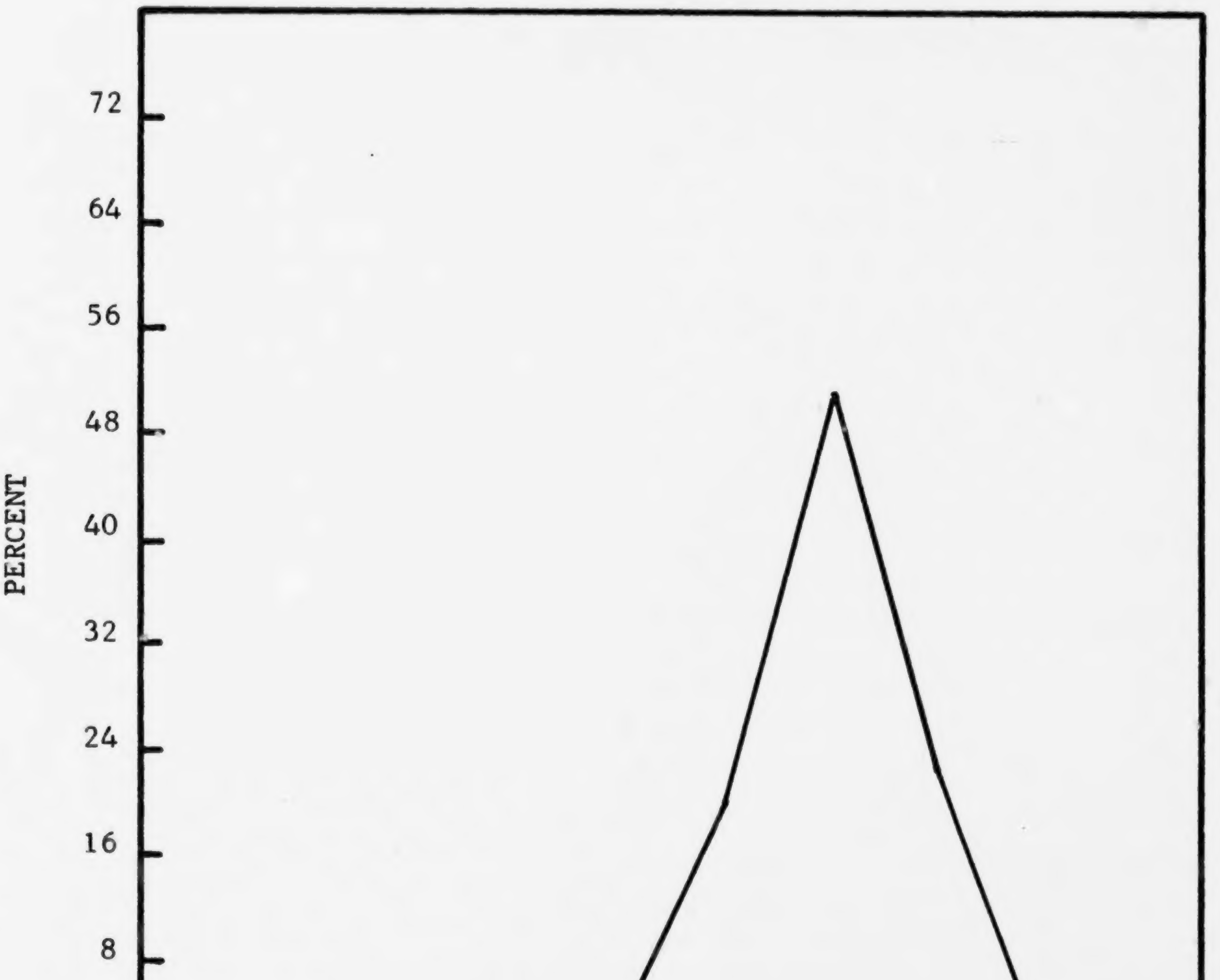
VARIABLE		r
34.	Starting Salary	-.152
41.	Teacher Aspirations	-.131
45.	Absentee Rate	-.129
22.	Enrollment	-.124

Variables 11, 16, 13, 32-Sa, 18 and 34 were submitted to regression analysis. Of these variables, 11, 16, 13, 32-Sa, and 18 contributed significantly to the multiple R = .399 and accounted for 15% of the total variance.

GOAL VII - Grade 5

Pupil scores are heavily concentrated around the mean of 161.7 ($\sigma = 20.46$). Approximately 51% of the scores fall between 150 and 174. Approximately 94% of the scores fall between 125 and 199 out of a possible range of 0 to 245. Figure 25 illustrates the distribution.

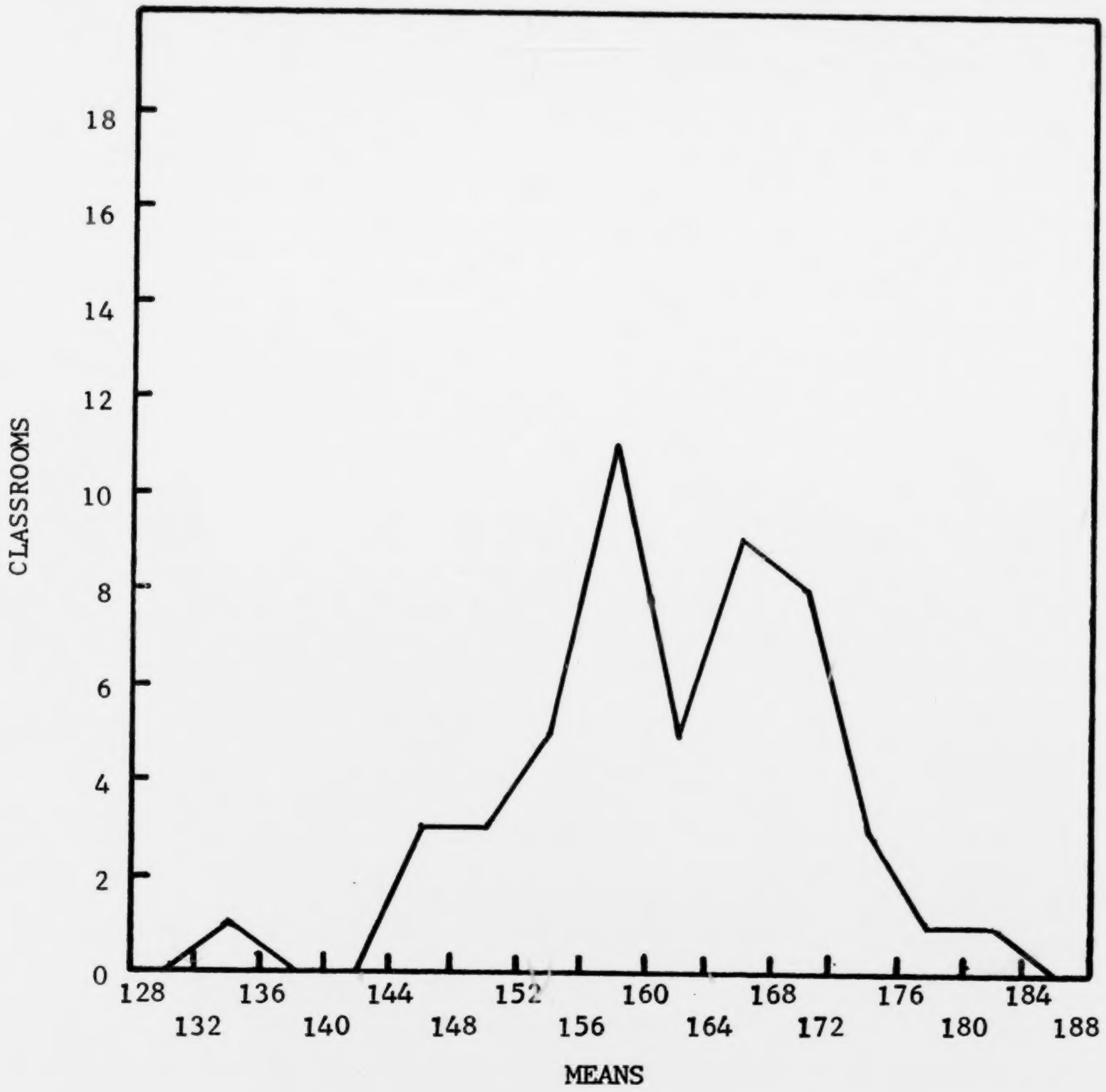
Figure 25. Distribution of Pupil Scores



GOAL VII - Grade 5

The classroom mean scores range from 132.259 to 180.187. Thirty-eight of the 50 classroom means fall between 152 and 172 with seven means below 152 and 5 means above 172. Figure 26 illustrates the distribution.

Figure 26. Distribution of Class Means



GRADE 11

Creativity Potential correlates significantly and positively with each of the output measures. These correlations range from r = .178 with Goal I to r = .322 with Creativity Output. The r = .529 with Goal X, not included in the range, is spuriously high because six of the measuring items are identical.

The student condition variables which correlate significantly and positively with Goal VII-P are:

VARIABLE		r
11.	Level of Previous Learning	.268
17-I.	School Mores (Idealistic)	.191
12.	Occupational Level of Father	.152
13.	Educational Level of Father	.148
14.	Educational Level of Mother	.120

The only school and staff variable which correlates significantly with Goal VII-P is (15) Continuing Education, r = .130.

In addition to variables 11, 12, 14, and 15, the following variables were submitted to regression analysis:

VARIABLE		r
31-Sa.	Teacher Educational Level (School)	.104
41.	Teacher Aspirations	-.089
24.	Holding Power	.089
30.	Counselor to Students Ratio	.080
18.	Location	.071

Variables 11, 31-Sa, and 30 contributed significantly to the multiple R = .295 and account for 9% of the total variance.

Creativity Output correlates significantly with Goal IV, r = .146; with Citizenship Application, r = .124; and with Goal X, r = .166. The only remaining significant correlation is between Creativity Output and Creativity Potential, r = .322.

The following variables were submitted to regression analysis:

VARIABLE		r
31-Sa.	Teacher Educational Level	.103
18.	Location	.101
13.	Educational Level of Father	.093
16.	Racial Composition	-.078
45.	Absentee Rate	.078
33a.	Teacher Experience in Present System	.072
30.	Counselor to Students Ratio	.070

Variables 31-Sa, 18, 13, 16, and 33a contributed significantly to the multiple R = .186, accounting for 3% of the total variance.

The relationships among these measures and the condition variables may also be treated in another way. Creativity Potential was originally conceived as being a function of the interaction between the abilities with which a child is born and his experiences, including school experience. It was, therefore, considered an output of the school program in the previous analysis.

Creativity Potential, however, may also be viewed as a condition variable for Creativity Output, thereby providing, along with other condition variables, a predictor for expected performance. Following this logic, a multiple correlation coefficient was computed, with Creativity Potential as one of the independent variables. The following list of variables contributed significantly to a multiple R = .430, explaining 18% of the variance - an increase of approximately 9% in the previously explained variance.

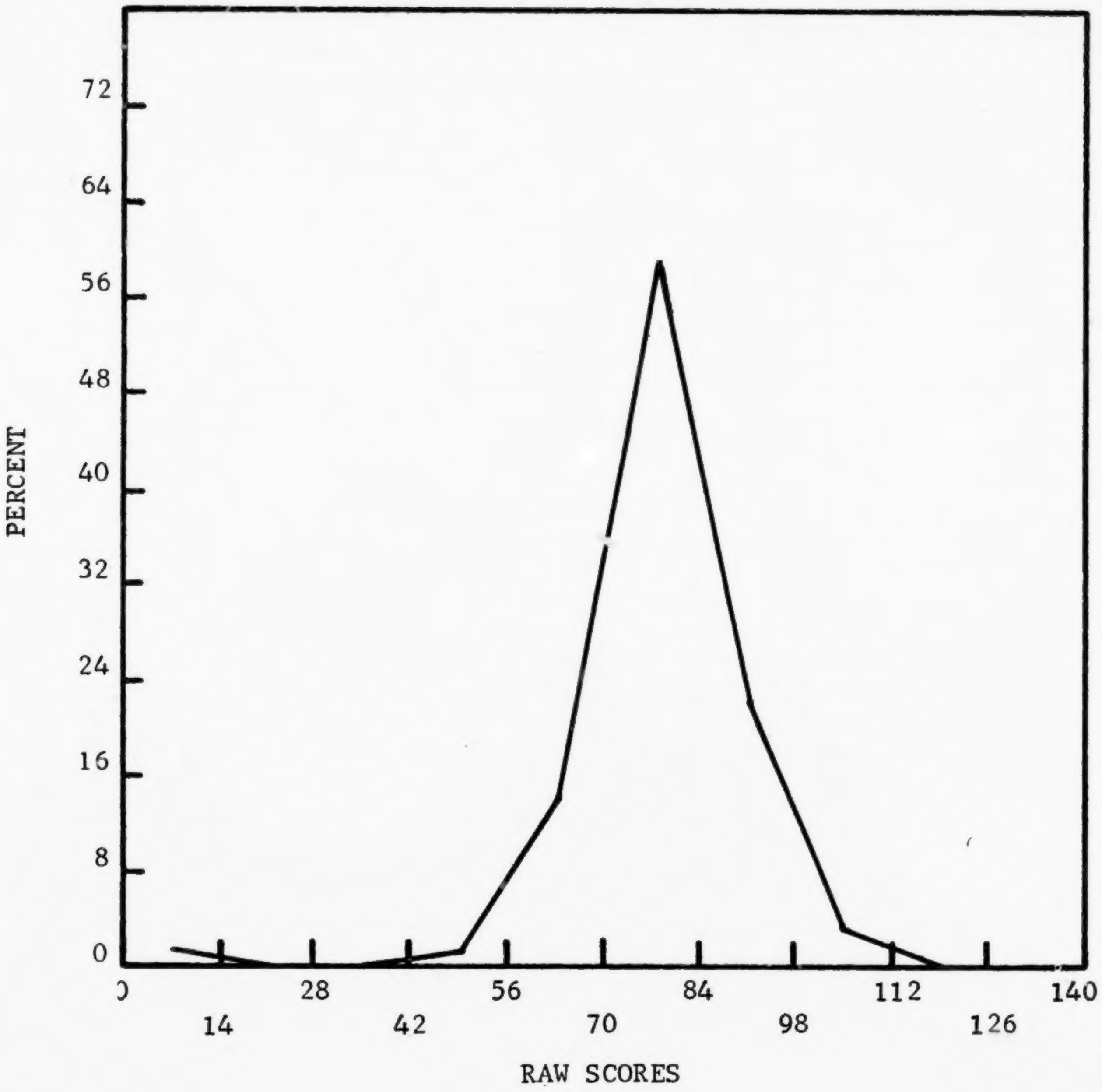
VARIABLE		r
VII-P.	Creativity Potential	.322
31-Sa.	Teacher Educational Level	.103
18.	Location	.101
13.	Educational Level of Father	.093
45.	Absentee Rate	.078
33a.	Teacher Experience in the Present System	.073
31-Sc.	Teacher Educational Level (School)	.062
17-R.	Student Mores (Realistic)	-.045
20.	Housing Types	.041
—	Number of Male Teachers	.028
11.	Level of Previous Learning	.022

The previously deduced conclusions about the latitude for schools to vary their programs, however, still stand.

GOAL VII-P - Grade 11

The distribution of pupil scores is heavily concentrated about the mean of 77.30 ($\sigma = 11.83$). Approximately 59% of the scores fall between 70 and 83. Approximately 95% of the scores fall between 56 and 97 out of a possible range of 0 to 127. Figure 27A illustrates the distribution.

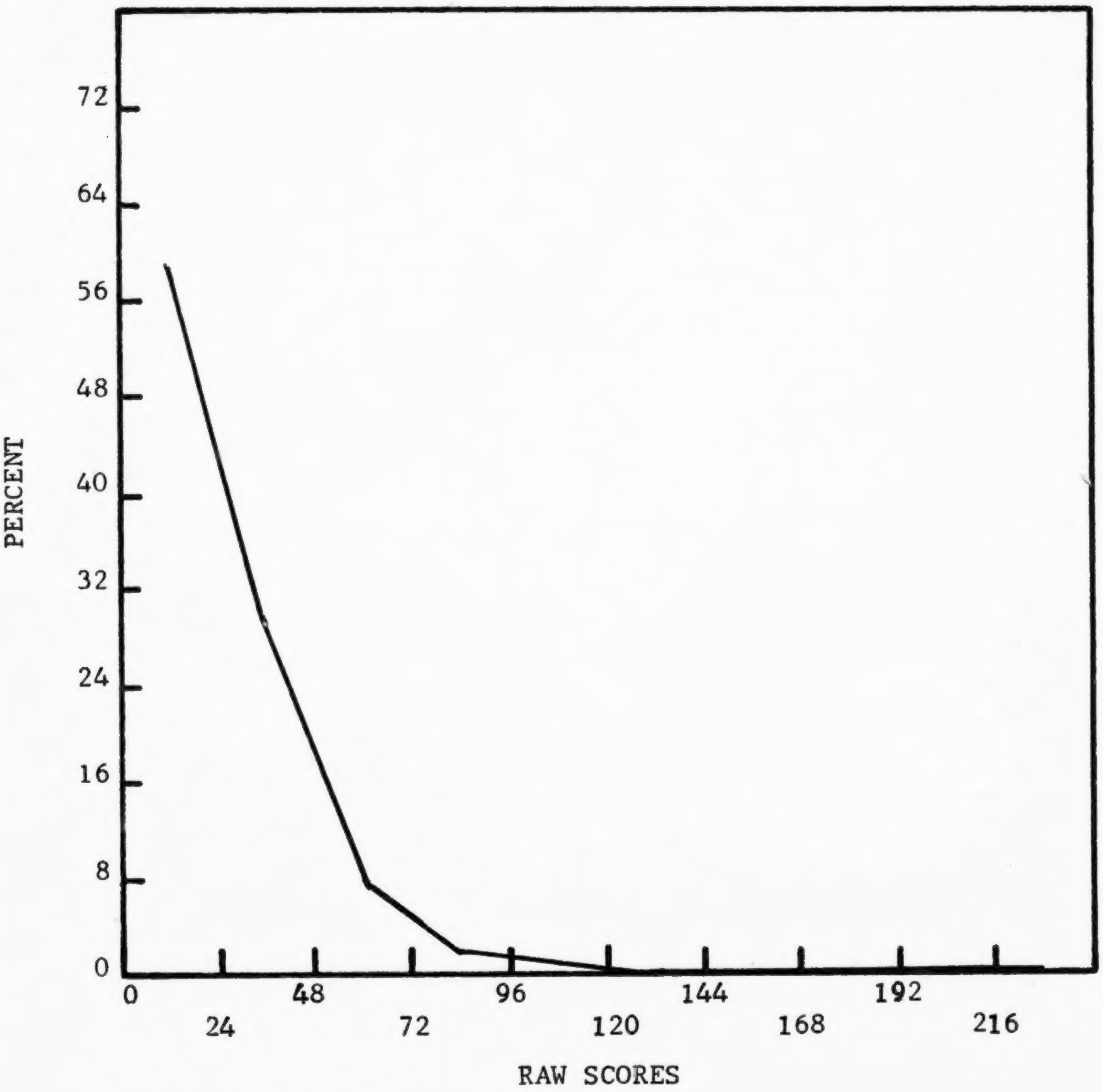
Figure 27A. Distribution of Pupil Scores



GOAL VII-O - Grade 11

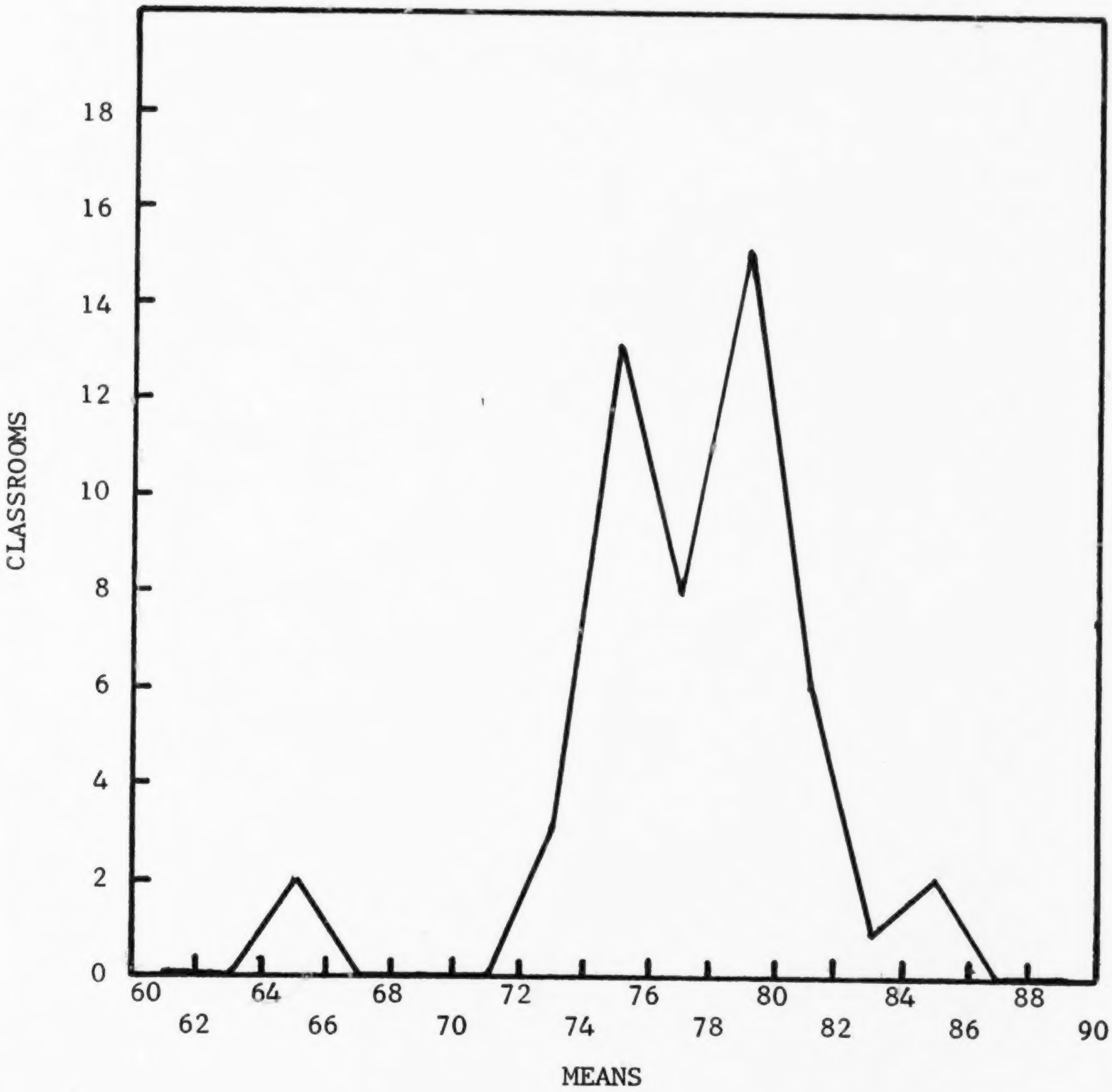
The distribution of pupils scores, illustrated in Figure 27B, is extremely positively skewed. Approximately 59% of the scores range from 0 to 23. Approximately 30% of the scores range from 24 to 47. The mean of the distribution is 23.73 ($\sigma = 19.85$). The possible range of the measure is 0 to 216. The nature of this measure demands great latitude at the upper end of the scale, and ample latitude is available. However, the measure does not discriminate at the lower end of the scale.

Figure 27B. Distribution of Raw Scores



Although the range is from 64.889 to 85.190, the distribution of classroom mean scores is concentrated heavily about the pupil mean of 77.30. Thirty-six of the 50 mean scores are between 74 and 80. Figure 28A illustrates the distribution.

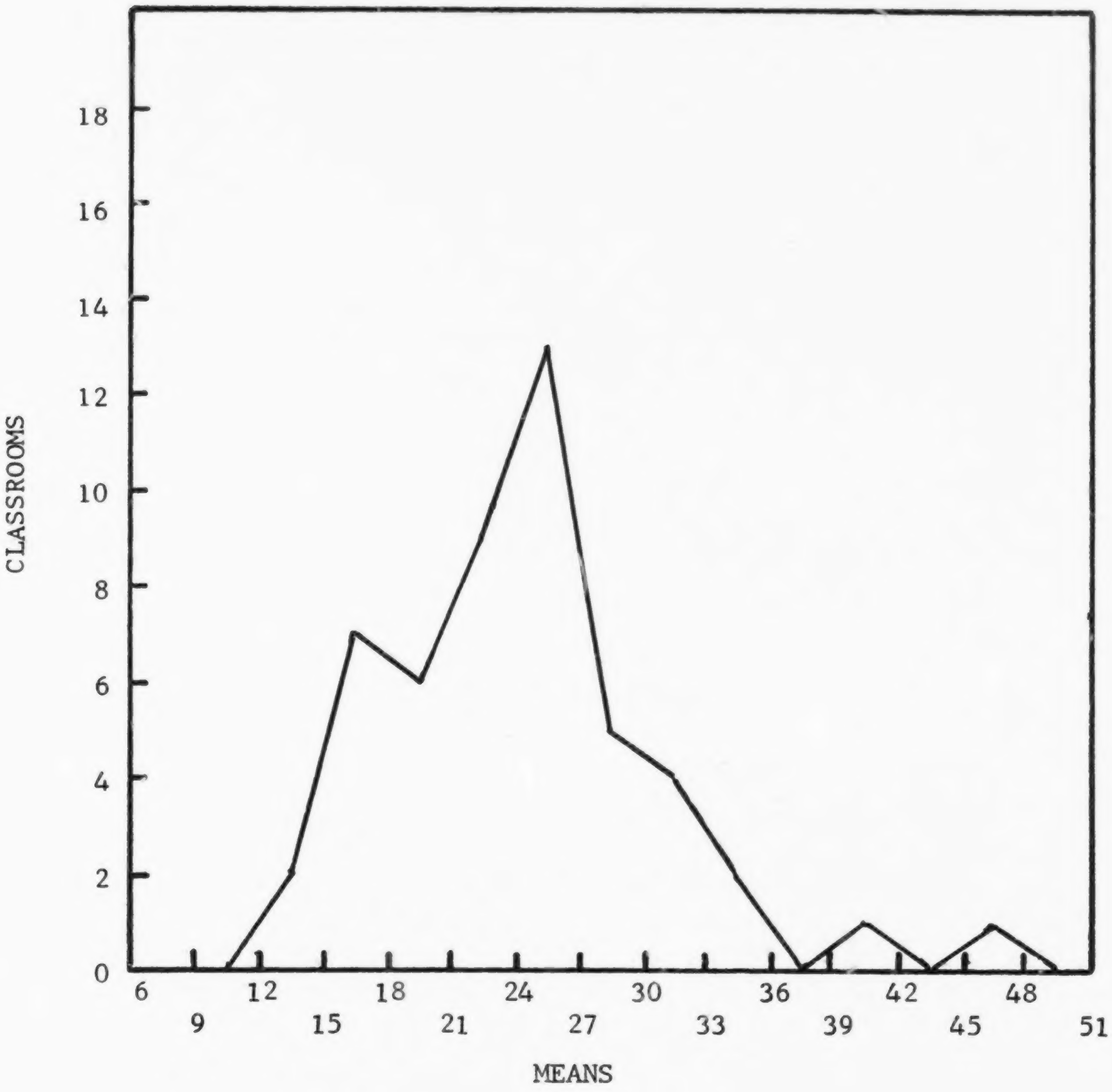
Figure 28A. Distribution of Class Means



GOAL VII-O - Grade 11

The classroom mean scores range from 13.200 to 46.667. However, the distribution is heavily concentrated about the pupil mean of 23.73. Forty of the 50 classroom scores fall between 15 and 30. Figure 28B illustrates the distribution.

Figure 28B. Distribution of Class Means



ITEM ANALYSIS

Item analysis reveals, for the fifth grade instrument, that 44 of the 49 items correlate positively and significantly with the total score. The item to total correlations range from r = .171 to r = .546.

Two items have significantly negative correlations. It appears that those pupils who exhibit a higher degree of creative potential do not agree that "You should change the rules of a game" and agree that "Toys that work right should never be taken apart".

The three remaining items do not correlate significantly with the total score.

Item analysis reveals for the eleventh grade creative potential instrument that each of the 26 items correlates significantly and positively. The item to total correlations range from r = .158 to r = .557.

For the eleventh grade creative output measure the correlations range from r = .187 to r = .442. Each of the 80 items correlates significantly and positively with the total score.

Reliability coefficients estimated from item to total correlations are:

Creativity Potential	- Grade 5	$r_{tt} = .859$
Creativity Potential	- Grade 11	$r_{tt} = .813$
Creative Output	- Grade 11	$r_{tt} = .901$

DISCUSSION

In the measurement process, Goal VII lives up to its implications. The results are unique, unusual, and unexpected.

At both grade levels, creative potential is related somewhat to a pupil's level of previous learning and to his socioeconomic status, but appears to have almost no relationship with school and community conditions.

Especially interesting is the unusual pupil performance on the grade 11 output measure, illustrated by Figure 27B. The shape of the distribution is decidely nonnormal and asymetrical. The shape of the distribution of pupil scores on the Creativity Potential measure, however, (Figure 27A) is approximately symmetrical.

The distributions suggest that although potential for creative performance is distributed fairly symmetrically throughout the population, the measured creative performance is present to a higher degree in only about 12% of the population, while the majority performs at a relatively low level.

In light of these contrasts one might question the validity of either of the measuring instruments. Equally plausible, however, is the consideration that while a student may have sufficient potential for creativity, other conditions intervene between his potential and his output.

With substantial portions of the variances of the creativity measures still unexplained, and with only 10% of the variance in Creativity Output explained by Creativity Potential, there appears to be considerable latitude for schools to vary their programs not only to help develop the potential for creativity among pupils but also to help bridge the gap between potential and creative performance.

GOAL VIII

QUALITY EDUCATION SHOULD HELP EVERY CHILD UNDERSTAND THE OPPORTUNITIES OPEN TO HIM FOR PREPARING HIMSELF FOR A PRODUCTIVE LIFE AND SHOULD ENABLE HIM TO TAKE FULL ADVANTAGE OF THESE OPPORTUNITIES.

The student should be helped to discover the practically unlimited possibilities for continuing self development in the world of work so that he will be motivated to pursue excellence in all forms of human endeavor that are appropriate for him.

It is important to keep in mind that processes, rather than a specific point in time, describe the manner in which individuals move toward vocational maturity. A review of the literature and interviews with students suggest that it is reasonable to expect that fifth graders are aware of different kinds of work and workers, and have a growing understanding of the relatedness of educational and vocational opportunities.

By the eleventh grade the more mature student will show involvement in the vocational choice process by actively seeking information about the world of work. He will take the responsibility for making career decisions and will not depend upon others to make these choices for him. Finally, the student will base his career choices upon his interests, abilities, and aptitudes, using a realistic appraisal of his potential as a basis for his decision making. He will discriminate between alternate life style opportunities available to him and will discuss the probable consequences of various choices.

Measurement in Goal VIII for Phase I consists of fifty (50) items on the Attitude Test of the Vocational Development Inventory. The Attitude Test is designed to assess the maturation of the following verbal behaviors which are hypothesized as being related to decision-making processes:

1. Involvement in the choice process
2. Orientation toward work
3. Independence in decision making
4. Preference for vocational choice factors
5. Conceptions of the choice process

Students are asked to respond to statements such as:

A. Work is dull and unpleasant.
B. There is only one occupation for each person.
C. In order to choose a job, you need to know what kind of person you are.

PHASE I FINDINGS

GRADE 5

Correlations between Goal VIII and each of the other output variables are significant and positive, ranging from r = .151 with Goal VI to r = .414 with Goal III.

Student condition variables which correlate with Goal VIII are:

VARIABLE		r
11.	Level of Previous Learning	.366
13.	Educational Level of Father	.173
14.	Educational Level of Mother	.142
12.	Occupational Level of Father	.136

School and staff variables which correlate significantly and positively with Goal VIII are:

VARIABLE		r
16.	Racial Composition	.220
32-Sa.	Teaching Experience	.190
40.	Teacher View of Professional Recognition	.187
33a.	Teacher Experience in Present System	.162
35.	Teacher Age	.158

Significant, negative correlations are found between Goal VIII and the following school and staff variables:

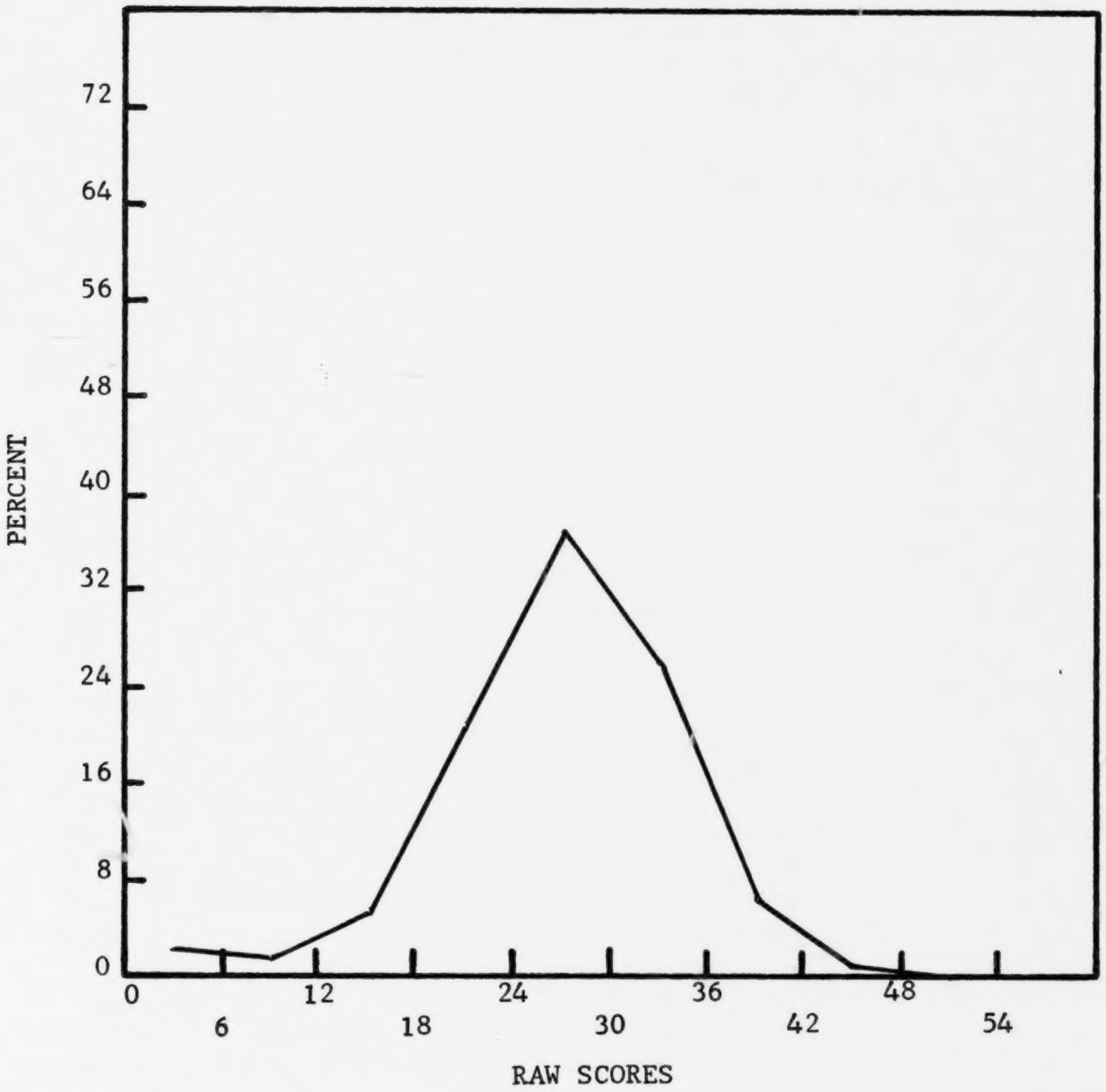
VARIABLE		r
39.	Occupational Level of Teacher's Guardian	-.191
34.	Starting Salary	-.186
23.	Per-Pupil Instructional Costs	-.182
30.	Counselor to Students Ratio	-.173
38.	Educational Level of Teacher's Mother	-.163
27.	Innovative Scale	-.134

Variables 11, 16, 32-Sa, 40, 34, and 30 were submitted to regression analysis. Of these, 11, 16, 32-Sa, 40, and 30 contributed significantly to the multiple R = .424 and accounted for 18% of the total variance.

GOAL VIII - Grade 5

The pupil scores range from 0 to 47 out of a possible total score of 50 but concentrate about the mean of 26.51 (σ = 7.11). Approximately 84% of the pupil scores fall between 18 and 35 while approximately 8% fall below 18 and about 8% fall above 35. Ample latitude for individual differences seems apparent on this scale. The distribution is illustrated in Figure 29.

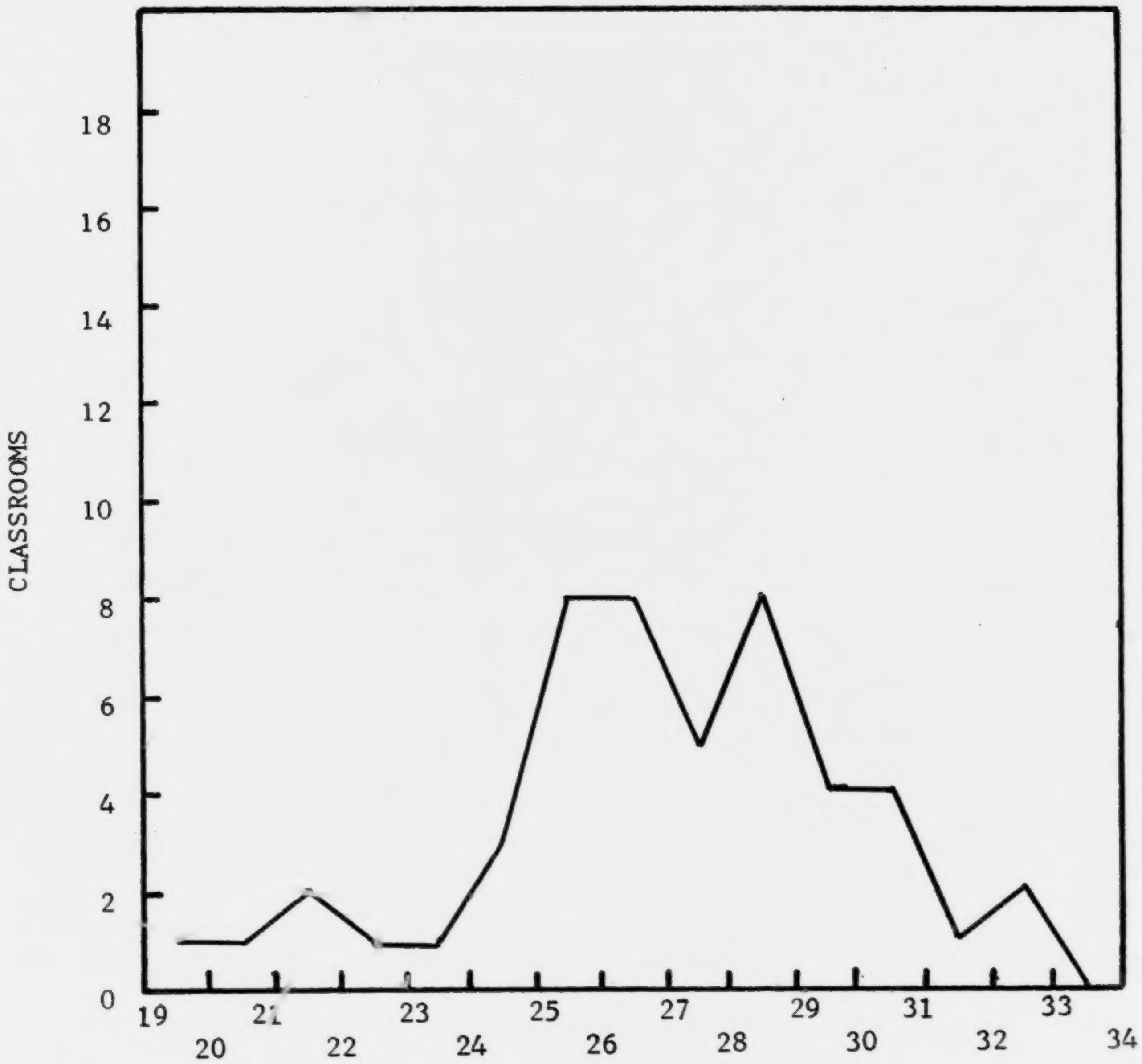
Figure 29. Distribution of Pupil Scores



GOAL VIII - Grade 5

The classroom mean scores range from 19.222 to 32.958. About 60% of the means are between the scores of 25 and 29. Figure 30 illustrates the distribution.

Figure 30. Distribution of Class Means



GRADE 11

Significant correlations are found between Goal VIII and each of the other output measures, with the exception of Creativity Output. These positive correlations range from r = .164 with Goal X to r = .577 with Goal VI.

Goal VIII correlates significantly and positively with the following student conditions:

VARIABLE		r
11.	Level of Previous Learning	.418
12.	Occupational Level of Father	.244
13.	Educational Level of Father	.172
14.	Educational Level of Mother	.172

The school and staff variables which correlate significantly and positively with Goal VIII are:

VARIABLE		r
16.	Racial Composition	.213
15.	Continuing Education	.187
23.	Per-Pupil Instructional Cost	.153
24.	Holding Power	.135
42.	Teacher's Perception of School Climate	.135
21.	Effort Index	.122
19.	Population Trend	.113

Significant, negative correlations are found between Goal VIII and the following school and staff variables:

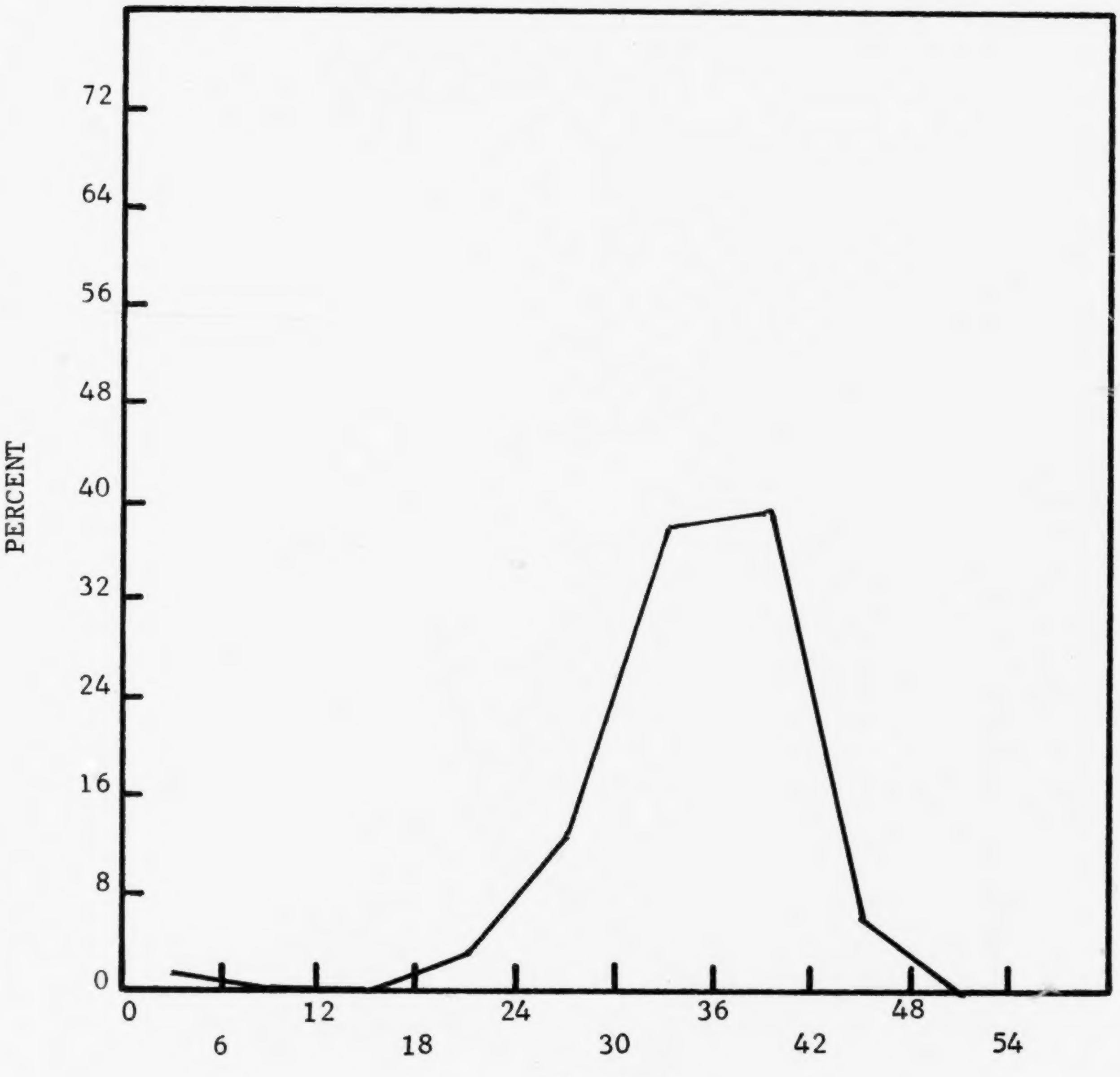
VARIABLE		r
45.	Absentee Rate	-.206
25.	Retention Rate	-.187
41.	Teacher's Aspirations	-.140

Variables 11, 12, 16, 15, 23, 42, 21, 45, and 41 were submitted to regression analysis. Variables 11, 12, 42, 45, and 41 contributed significantly to the multiple R = .439 and accounted for 19% of the total variance.

GOAL VIII - Grade 11

The pupil scores range from 0 to 50. Approximately 77% of the scores fall between 30 and 41 about a mean of 34.20 (σ = 5.64). Since approximately 99% of the scores fall between 18 and 47, there is latitude for individual differences. Figure 31 illustrates the distribution.

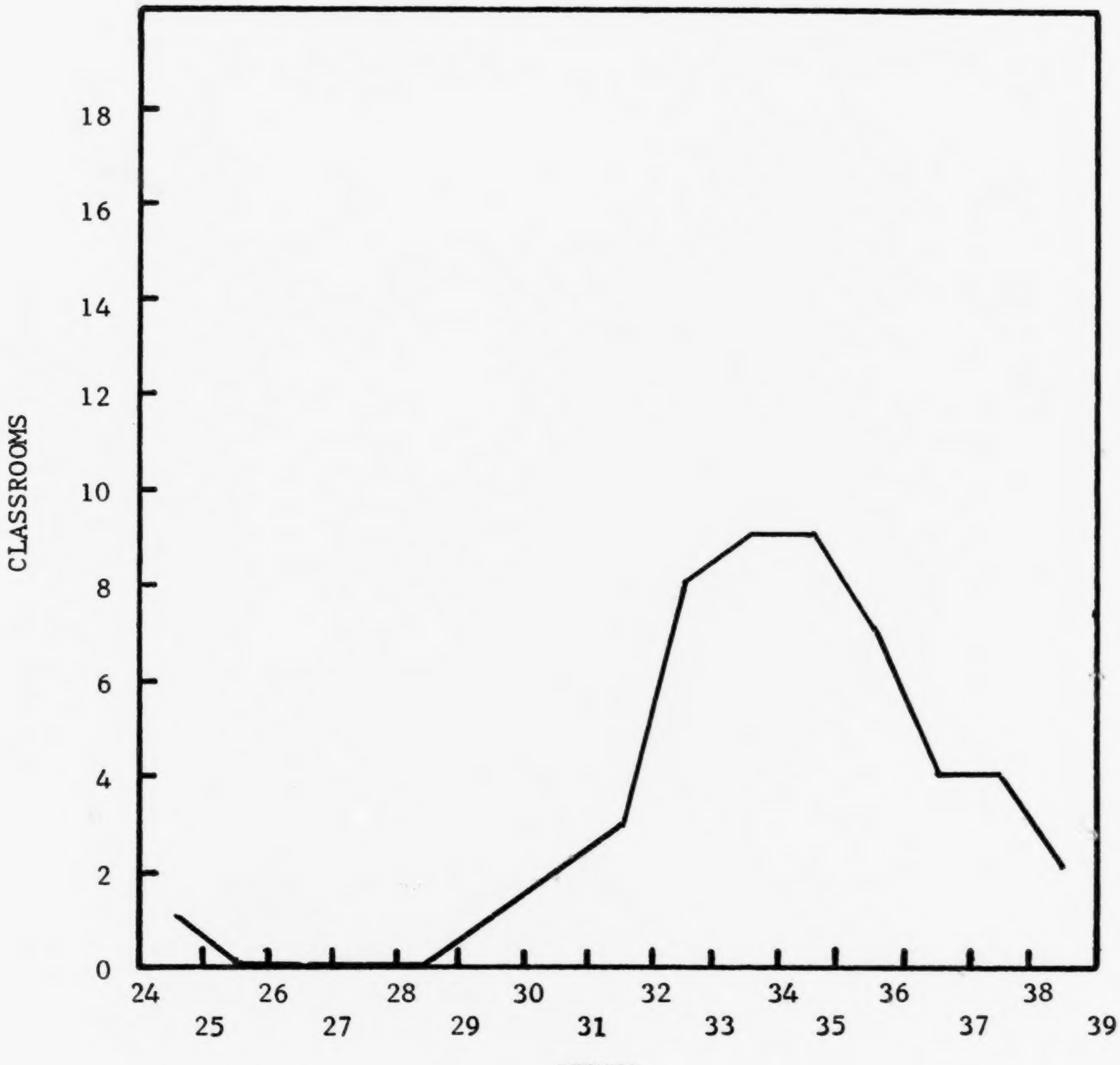
Figure 31. Distribution of Pupil Scores



GOAL VIII - Grade 11

Although the classroom mean scores range from 24.583 to 38.889, only one classroom score is at the level below 29 while 33 classroom means are between 32 and 36 about the pupil mean of 34.20. Figure 32 illustrates the distribution.

Figure 32. Distribution of Class Means



DISCUSSION

Vocational maturity is viewed as a developmental process, a process in which eleventh graders are expected to exhibit a higher degree of development than fifth graders. Figures 29, 30, 31, and 32 support this hypothesis. With identical items, the distribution of Grade 11 pupil scores is within a significantly higher range than the distribution of Grade 5 pupil scores. Also, Grade 11 classroom mean scores are decidedly higher than Grade 5 classroom mean scores.

At both grade levels, Goal VIII correlates more highly with the cognitive achievement areas than with the affective achievement areas. At the Grade 5 level, correlations are highest between Goal VIII and Goal III and between Goal VIII and Goal IX. At the Grade 11 level, correlations are highest between Goal VIII and Goals VI, III, and IX.

Similarly, vocational maturity relates most highly to a student's level of previous learning and to his socioeconomic status.

The influence of the teacher appears to be a high correlating factor with the degree of vocational maturity among fifth graders. Among eleventh graders, school conditions relate most highly. The vocationally mature eleventh grade pupil is more likely than not in a classroom with a greater percentage of whites and in a school where a greater percentage continue their education, where per pupil instructional costs are higher, and where absentee and retention rates are lower.

The Goal VIII findings imply that the student who is more academically capable and is more likely to continue his education is also more vocationally mature. In contrast, the Goal VIII findings imply that the pupil who is more likely to enter the world of work directly after high school is less vocationally mature. It seems ironical that vocational maturity, which involves making career decisions and preferences and involves orientating one's self toward work, should be least highly developed among those students for whom decision making and work is most urgent.

GOAL IX

QUALITY EDUCATION SHOULD HELP EVERY CHILD TO UNDERSTAND AND APPRECIATE AS MUCH AS HE CAN OF HUMAN ACHIEVEMENT IN THE NATURAL SCIENCES, THE SOCIAL SCIENCES, THE HUMANITIES, AND THE ARTS.

The student who is fulfilling the requirements of Goal IX is first of all aware of human accomplishments. Possessing this knowledge he is willing to receive and not to avoid the stimuli that the sciences and the arts provide. He then is ready to more clearly and consciously perceive this stimuli and begin to discriminate among art forms. Having reached this stage of development, he is ready to respond rather than merely attend to phenomena. He chooses to attend a play, to read of a famous scientist or to contemplate the design of a building.

Reaching a higher level of development, he gains satisfaction in responding. Music becomes an emotional involvement. Politics becomes a zealous pursuit. Reading becomes a vicarious experience.

At the highest level of development, the student exhibits a degree of sensitivity that enables him to differentiate the worthy from the worthless, in the multifarious products of civilization as we know it - books, motion pictures, radio, TV, music, the visual and performing arts, architecture, industrial design, and literature.

Measurement in Goal IX for Phase I consists of sixty-seven (67) items for the fifth grade student and sixty-nine (69) items for the eleventh grade student on the Pennsylvania General Information Inventory. Measurement is confined to the awareness, or cognitive level.

Students are asked to respond to questions such as:

1. A portrait is most likely to be a picture of a

    a. landscape
    b. person
    c. flower
    d. harbor

2. The Security Council, General Assembly, & Secretary General are organs of the

    a. United States
    b. United Nations
    c. Pan-American Union
    d. League of Nations

PHASE I FINDINGS

GRADE 5

Correlations between Goal IX and eight of the other output variables are significantly positive, ranging from r = .270 with Goal IV to r = .736 with Goal III. The correlation between Goal IX and Goal VI is not significant.

Student conditions which correlate significantly and positively with Goal IX are:

VARIABLE		r
11.	Level of Previous Learning	.608
12.	Occupational Level of Father	.405
13.	Educational Level of Father	.402
14.	Educational Level of Mother	.342

The following school, community and staff variables correlate significantly and positively with Goal IX:

VARIABLE		r
16.	Racial Composition	.355
20.	Housing Types	.285
33b.	Teacher Experience in Present Position	.258
18.	Location	.233
33a.	Teacher Experience in Present System	.232
26.	Library Books to Student Ratio	.219
32-Sa.	Teaching Experience	.214
44.	Teacher Classroom Innovation	.207
36.	Teacher Degree Institution	.205
32-Sc.	Teaching Experience (School)	.165
42.	Teacher Perception of School Climate	.150
31-Sc.	Teacher Educational Level (School)	.139

Significant, negative correlations are found between Goal IX and the following variables:

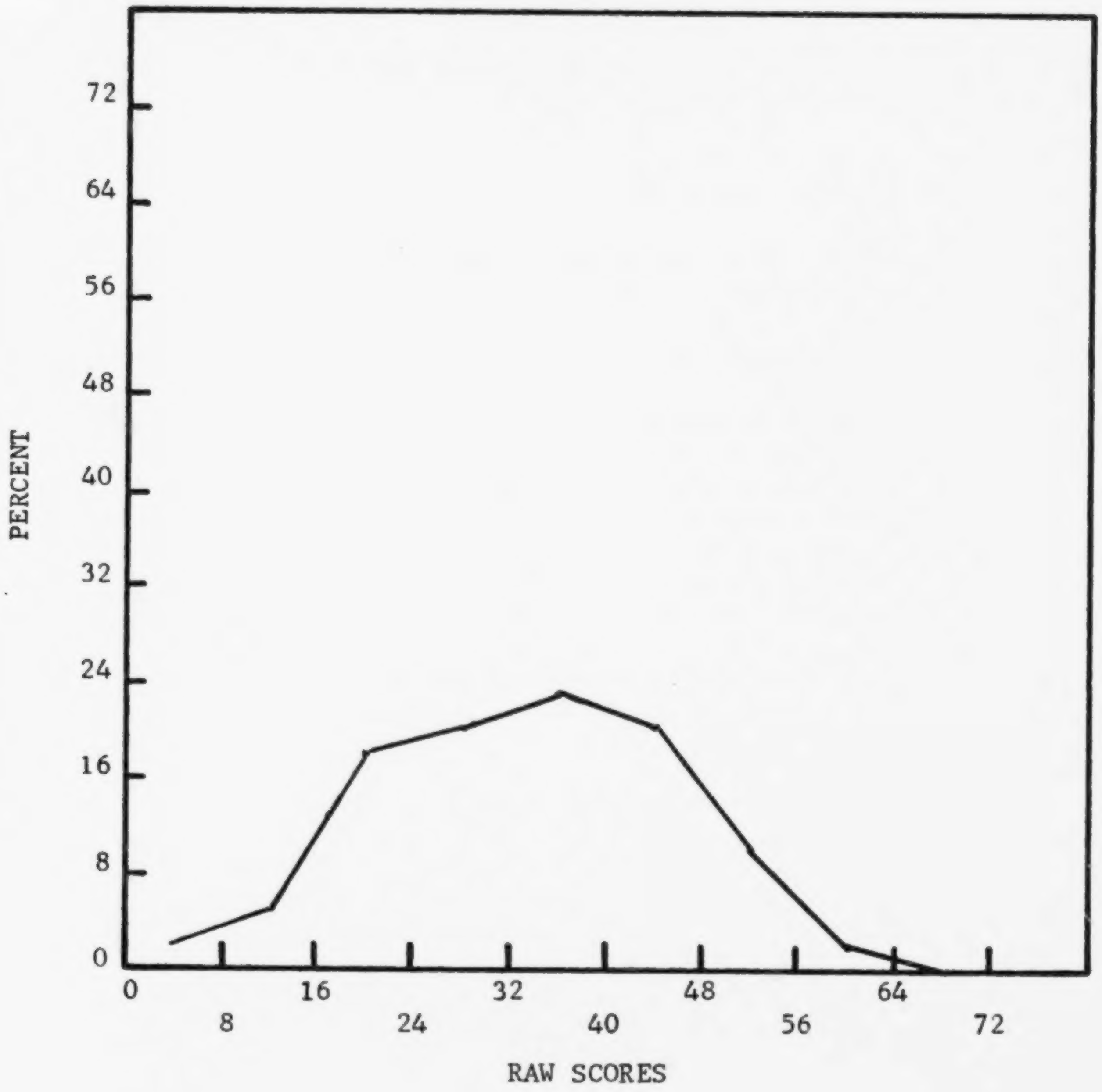
VARIABLE		r
43.	Teacher Perception of Policy Making Groups	-.163
45.	Absentee Rate	-.157
30.	Counselor to Students Ratio	-.135
27.	Innovative Scale	-.118

Variables 11, 12, 16, 20, 33b, and 36 contributed significantly to the multiple R = .692, explaining 48% of the total variance.

GOAL IX - Grade 5

The distribution of the pupil scores is almost symetrical and approaches normality. Approximately 63% of the scores fall between 24 and 47 about a mean of 32.75 ($\sigma = 12.21$), and approximately 96% of the scores fall between 8 and 55. Since the possible range is 0 to 67, there appears to be ample latitude for individual differences. The distribution is shown in Figure 33.

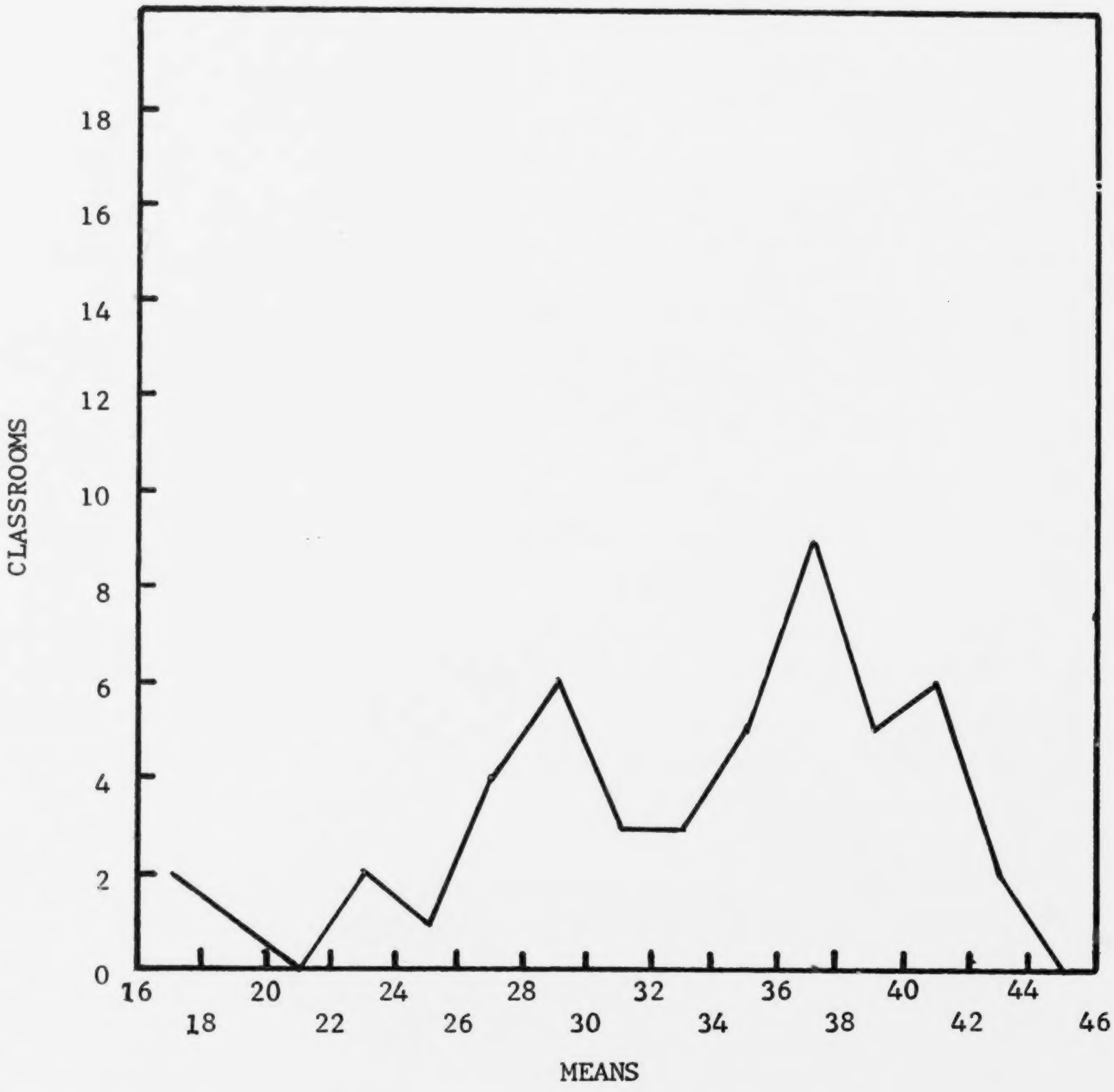
Figure 33. Distribution of Pupil Scores



GOAL IX - Grade 5

Classroom mean scores range from 17.407 to 43.536. The distribution, illustrated in Figure 34, is negatively skewed. Thirty classroom means fall above the pupil mean of 32.75 and 19 fall below this mean. The greatest concentration of scores is 9 mean scores between 36 and 38. Figure 34 illustrates the spread of the scores.

Figure 34. Distribution of Class Means



GRADE 11

Correlations between Goal IX and each of the other output measures, with the exception of Creativity Output, are significant and positive, ranging from r = .203 with Goal V to r = .746 with Goal III.

Student condition variables which correlate positively and significantly with Goal IX are:

VARIABLE		r
11.	Level of Previous Learning	.700
12.	Occupational Level of Father	.400
13.	Educational Level of Father	.375
14.	Educational Level of Mother	.337
17-I.	School Mores (Idealistic)	.254

Goal IX correlates significantly and positively with the following community, school and staff variables:

VARIABLE		r
16.	Racial Composition	.366
15.	Continuing Education	.348
19.	Population Trend	.294
23.	Per-Pupil Instructional Costs	.266
20.	Housing Types	.259
24.	Holding Power	.240
21.	Effort Index	.205
42.	Teacher Perception of School Climate	.202
40.	Teacher View of Professional Recognition	.164
28.	Staff to Pupils Ratio	.142
37.	Teacher Background (High School & Locale)	.131
18.	Location	.127
39.	Occupational Level of Teacher's Guardian	.114

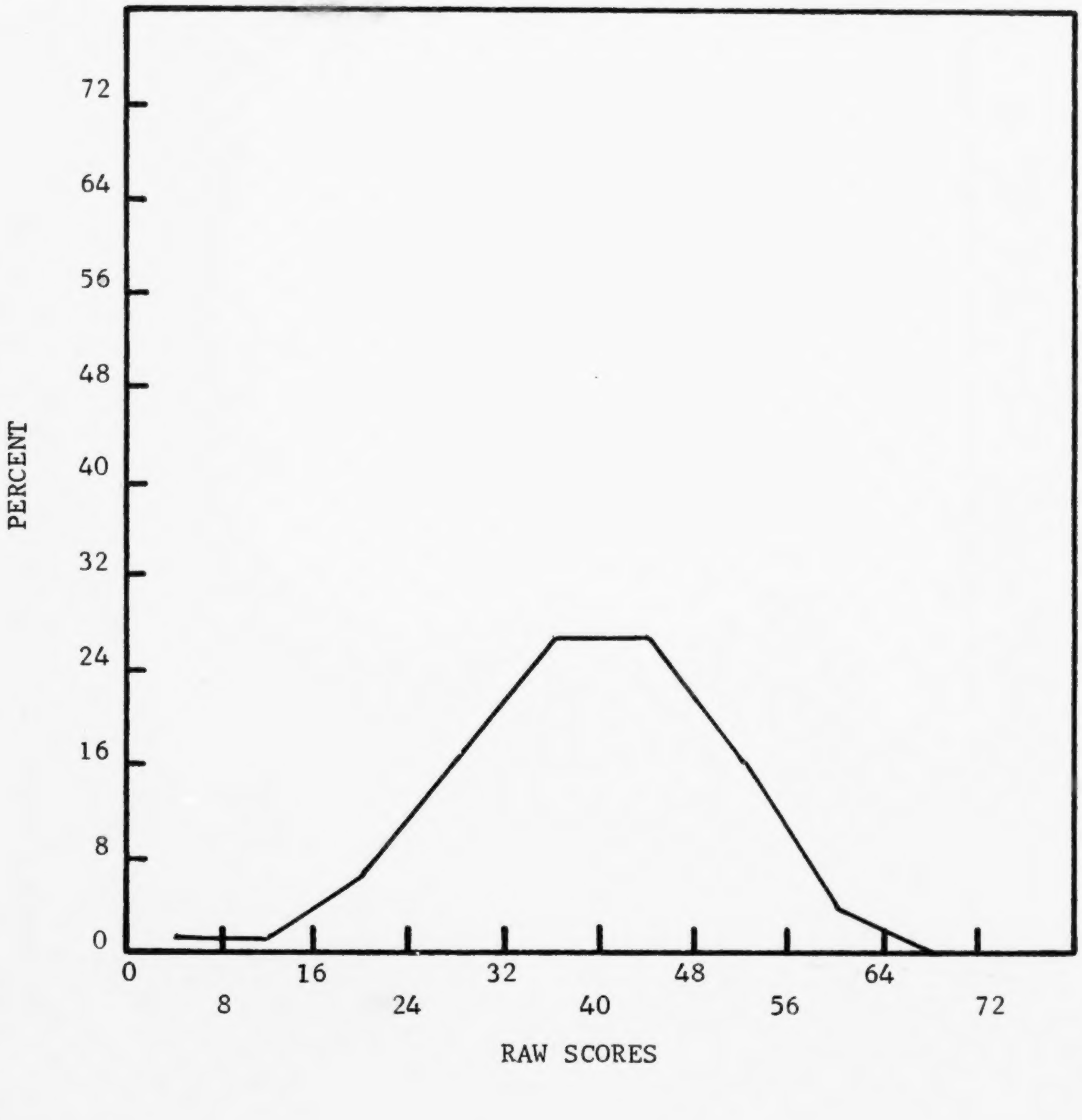
Significant, negative correlations are found between Goal IX and the following variables:

VARIABLE		r
45.	Absentee Rate	-.304
25.	Retention Rate	-.249
41.	Teacher Aspirations	-.197

GOAL IX - Grade 11

The distribution of pupil scores approaches normality with approximately 94% of the scores falling between 16 and 55 about a mean of 38.37 ($\sigma = 10.37$). This distribution, illustrated in Figure 35, suggests that ample latitude is provided for individual differences.

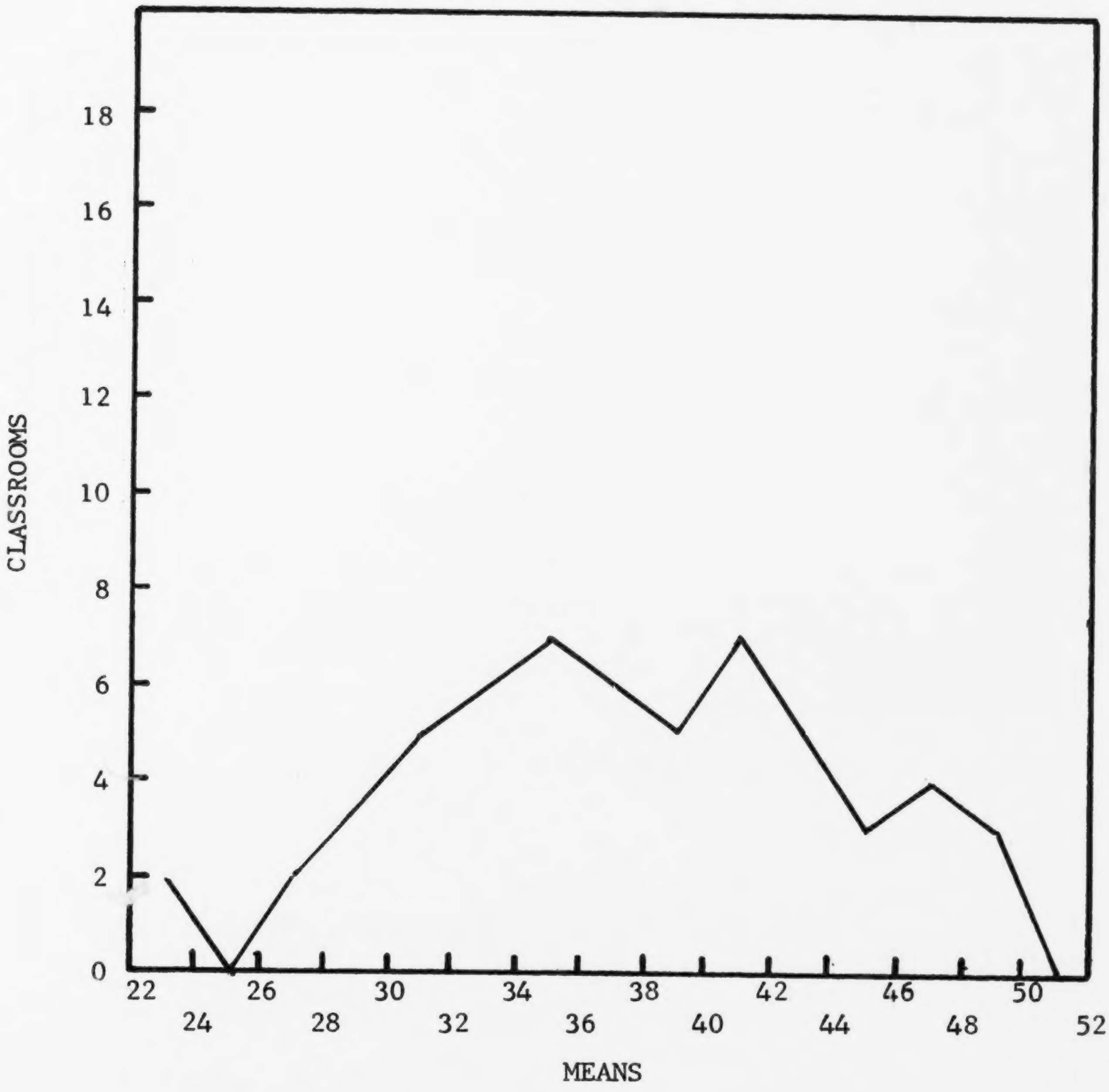
Figure 35. Distribution of Pupil Scores



GOAL IX - Grade 11

The distribution of classroom mean scores is illustrated in Figure 36, the scores ranging from 22.250 to 48.556. The mean scores are distributed throughout the range with 26 scores falling above the pupil mean of 38.37 and 24 scores falling below the pupil mean.

Figure 36. Distribution of Class Means



Variables 11, 12, 16, 15, 19, 23, 21, 28, 18, and 25 were submitted to regression analysis. Variables 11, 12, 16, 15, and 23 were found to contribute significantly to the multiple R = .727, explaining 53% of the total variance.

DISCUSSION

It appears that the measuring instruments for Goal IX and for Goal III are very closely related. Comparison of the types of items on the two measures suggests that the relationship is not primarily a matter of item similarity. The Goal III items are designed to test a student's ability to functionally handle concepts and processes in the basic skills, whereas the Goal IX items are designed to assess the level of information he has obtained about human accomplishments in the sciences and humanities. Rather, some underlying factor must account for the similarity of scores on the two measures.

At both grade levels, the variables which have substantial portions of their variances in common with achievement in Goal IX are a student's level of previous learning, the educational level of his mother, the racial composition of the classroom and the educational level of the teacher. At the Grade 11 level, a student's perception of school mores, the percentage of pupils continuing their education, per-pupil instructional costs, effort, and staff/pupils ratio add significant information.

The significant teacher variables tend to be related to the teacher's background and/or to his perception of the school system as a fairly positive institution. Teacher classroom innovation, perhaps more properly defined as teaching flexibility, relates significantly at the Grade 5 level, but disappears as a related variable at the Grade 11 level.

Correlating negatively with achievement in Goal IX at the fifth grade level are the ratio of counselors to students and school innovativeness. At the eleventh grade level, correlating negatively is teacher aspiration level. At both grade levels, absentee rate correlates significantly negatively. Further analysis reveals that when a classroom contains a higher proportion of nonwhite pupils, the affect of this racial composition greatly influences the magnitude of the significantly negative correlations. When the racial composition variable is removed through partial correlation techniques, the significantly negative correlations become insignificant. Each of these negative correlations appears to be a function of whatever underlies the influences of racial composition on the school setting.

Measurement in the Goal IX area is considered by the authors to be only partially successful. Modified instruments are needed to truly assess the appreciations of human accomplishments. However, with only about 50% of the variance explained, there is still ample room for attainment of Goal IX by the operation of variables which may be educational processes as well as other unknowns. Continued experimentation with process variables is desirable.

GOAL X

QUALITY EDUCATION SHOULD HELP EVERY CHILD TO PREPARE FOR A WORLD OF RAPID CHANGE AND UNFORESEEABLE DEMANDS IN WHICH CONTINUING EDUCATION THROUGHOUT HIS ADULT LIFE SHOULD BE A NORMAL EXPECTATION.

In the positive aspect of this dimension, the student's attitude will be one of openness to the possibilities of change; change in his personal world as well as external change. In order to accept change, he will show tolerance of ambiguity and openness to new experiences.

In order for the student to fulfill his own lifelong needs as well as the future needs of society, he will view education as an important and essential activity and one that does not end where formal schooling ends.

Measurement in Goal X for Phase I for the fifth grade student consists of eleven (11) items on the Pennsylvania Opinion and Interest Survey. For the eleventh grade student there are twelve (12) items on the Pennsylvania Opinion and Interest Survey and eight (8) items on the Pennsylvania Student Questionnaire.

Students are asked to respond to statements such as:

A. Going to school and listening to the teacher is the only way to learn.

   1. Strongly Agree
   2. Agree
   3. Disagree
   4. Strongly Disagree

B. When I graduate from high school, I will know all I need to get on in the world.

   1. Strongly Agree
   2. Agree
   3. Disagree
   4. Strongly Disagree

PHASE I FINDINGS

GRADE 5

Significant, positive correlations are found between Goal X and each of the other output measures, ranging from r = .123 with Goal VI to r = .374 with Citizenship Attitude. The r = .547 with Goal VII, not included in the range, is spuriously high because six of the measuring items are identical.

Student condition variables which correlate positively and significantly with Goal X are:

VARIABLE		r
11.	Level of Previous Learning	.286
12.	Occupational Level of Father	.230
13.	Educational Level of Father	.197
14.	Educational Level of Mother	.132

Significant, positive correlations are found between Goal X and each of the following school, staff and community variables:

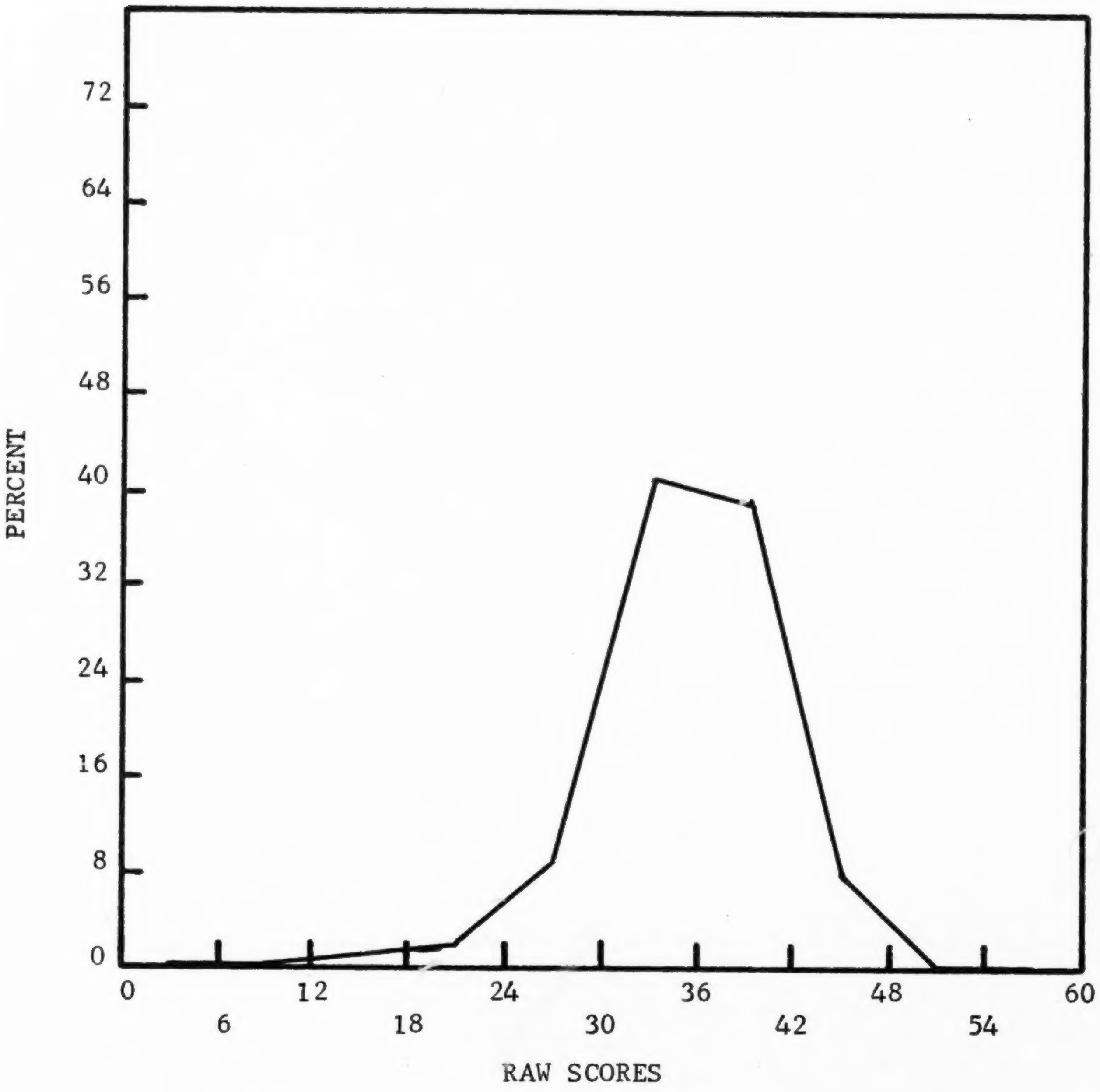
VARIABLE		r
16.	Racial Composition	.197
18.	Location	.158
32-Sa.	Teaching Experience	.121
33b.	Teacher Experience in Present Position	.114
33a.	Teacher Experience in Present System	.111

Variables 11, 12, 14, 16, 18, 32-Sa and (26) Library Books to Student Ratio, r = .108, were submitted to regression analysis. Variables 11, 12, 16, and 18 contributed significantly to the multiple R = .349, explaining 12% of the total variance.

GOAL X - Grade 5

The pupil scores are heavily concentrated about the mean of 35.15 ($\sigma = 4.98$). Approximately 80% of the scores fall within five points above and below the mean. About 12% of the pupil scores fall below 30 and about 8% of the scores fall above 41. The range of scores is from 12 to 47 out of a possible 0 to 55 range, suggesting ample provision on the measure for individual differences. Figure 37 illustrates the concentration of scores.

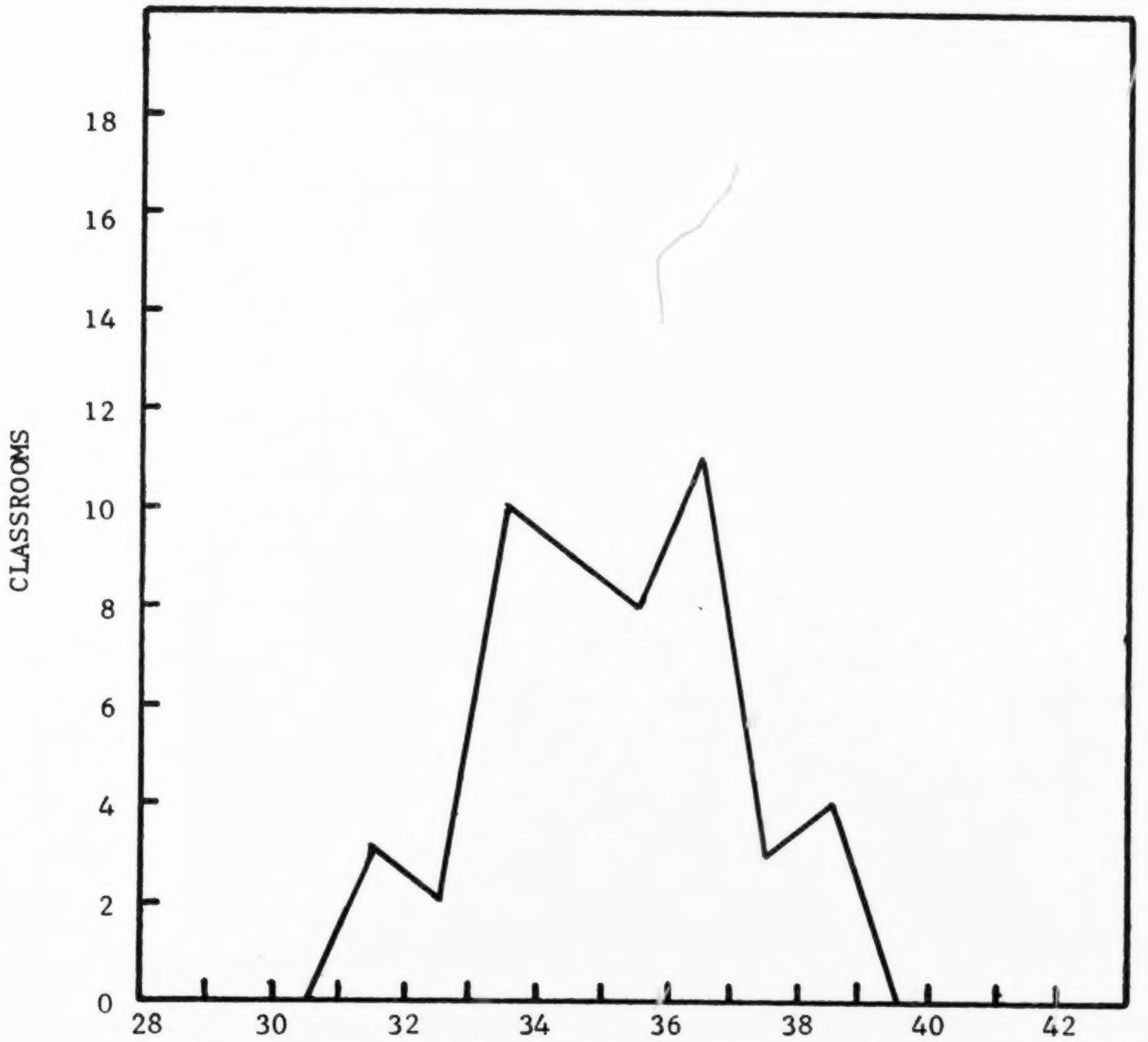
Figure 37. Distribution of Pupil Scores



GOAL X - Grade 5

The distribution of classroom mean scores is heavily clustered about the pupil mean of 35.15. Thirty-eight scores fall between 34 and 37 with five below 34 and seven above 37. Figure 38 illustrates this distribution.

Figure 38. Distribution of Class Means



GRADE 11

Significant, positive correlations are found between Goal X and each of the other output measures, ranging from r = .164 with Goal VIII to r = .420 with Goal V. The r = .529 with Goal VII-P, not included in the range, is spuriously high because six of the measuring items are identical. Likewise, the r = .596 with Goal IV, not included in the range, is spuriously high because eight of the measuring items are identical.

The following student condition variables correlate significantly positive with Goal X:

VARIABLE		r
17-I.	School Mores (Idealistic)	.292
17-R.	School Mores (Realistic)	.268
11.	Level of Previous Learning	.168

There are no significant, positive correlations between Goal X and community, school or staff variables.

The following variables were submitted to regression analysis:

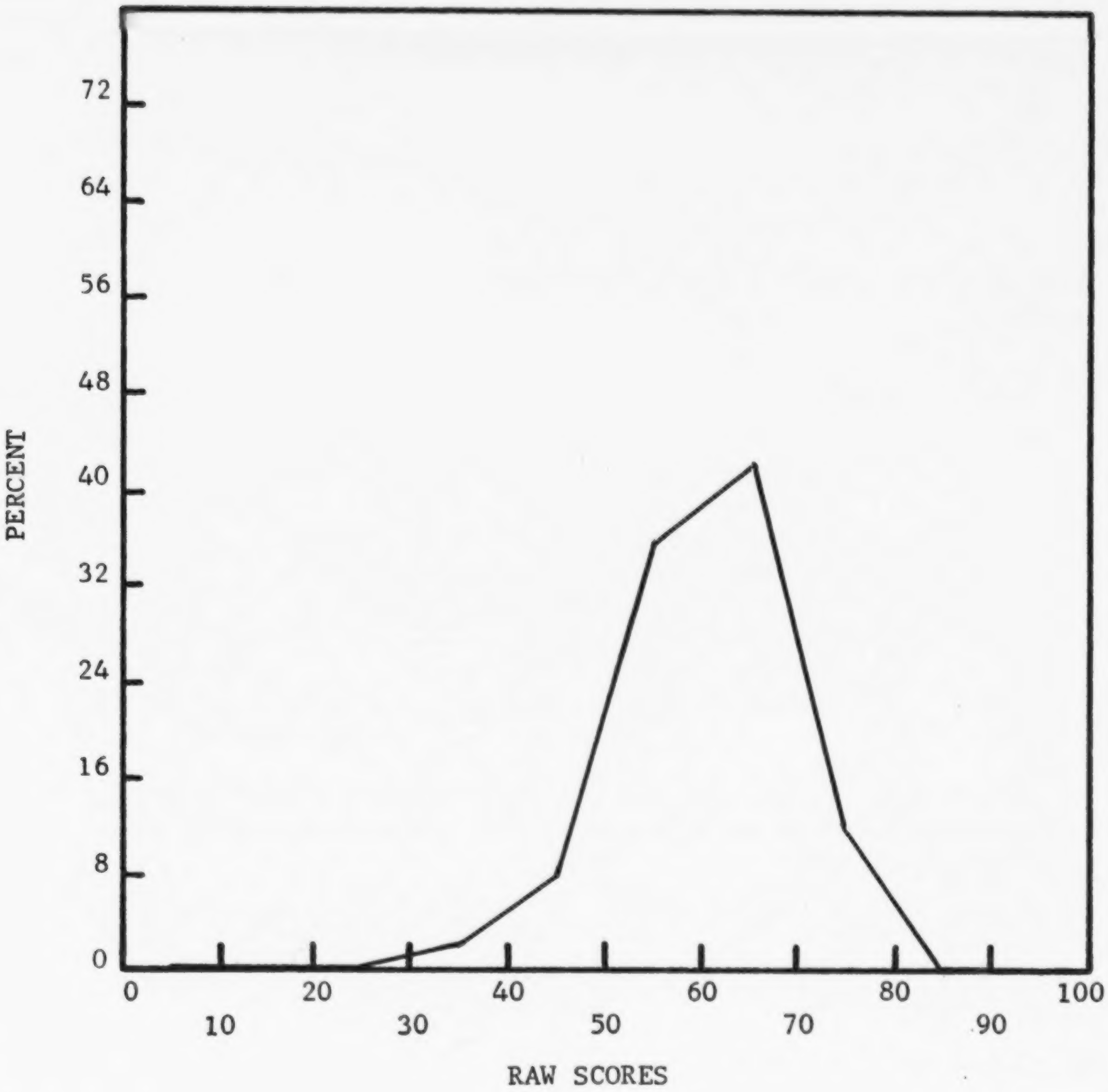
VARIABLE		r
11.	Level of Previous Learning	.169
45.	Absentee Rate	-.098
41.	Teacher Aspirations	-.095
16.	Racial Composition	.094
23.	Per-Pupil Instructional Costs	.087
28.	Staff to Pupils Ratio	.087
34.	Starting Salary	-.082
24.	Holding Power	.079
21.	Effort Index	.080

Variables 11, 41, 23, and 34 were found to contribute significantly to the multiple R = .197, accounting for 4% of the total variance.

GOAL X - Grade 11

The distribution of pupil scores is concentrated within ten points above and below the mean of 60.02 ($\sigma = 9.02$). About 78% of the pupil scores fall between 50 and 69. Approximately 10% fall between 30 and 49 and about 12% fall between 70 and 79. There seems to be ample latitude on the scale for individual differences. This distribution is illustrated in Figure 39.

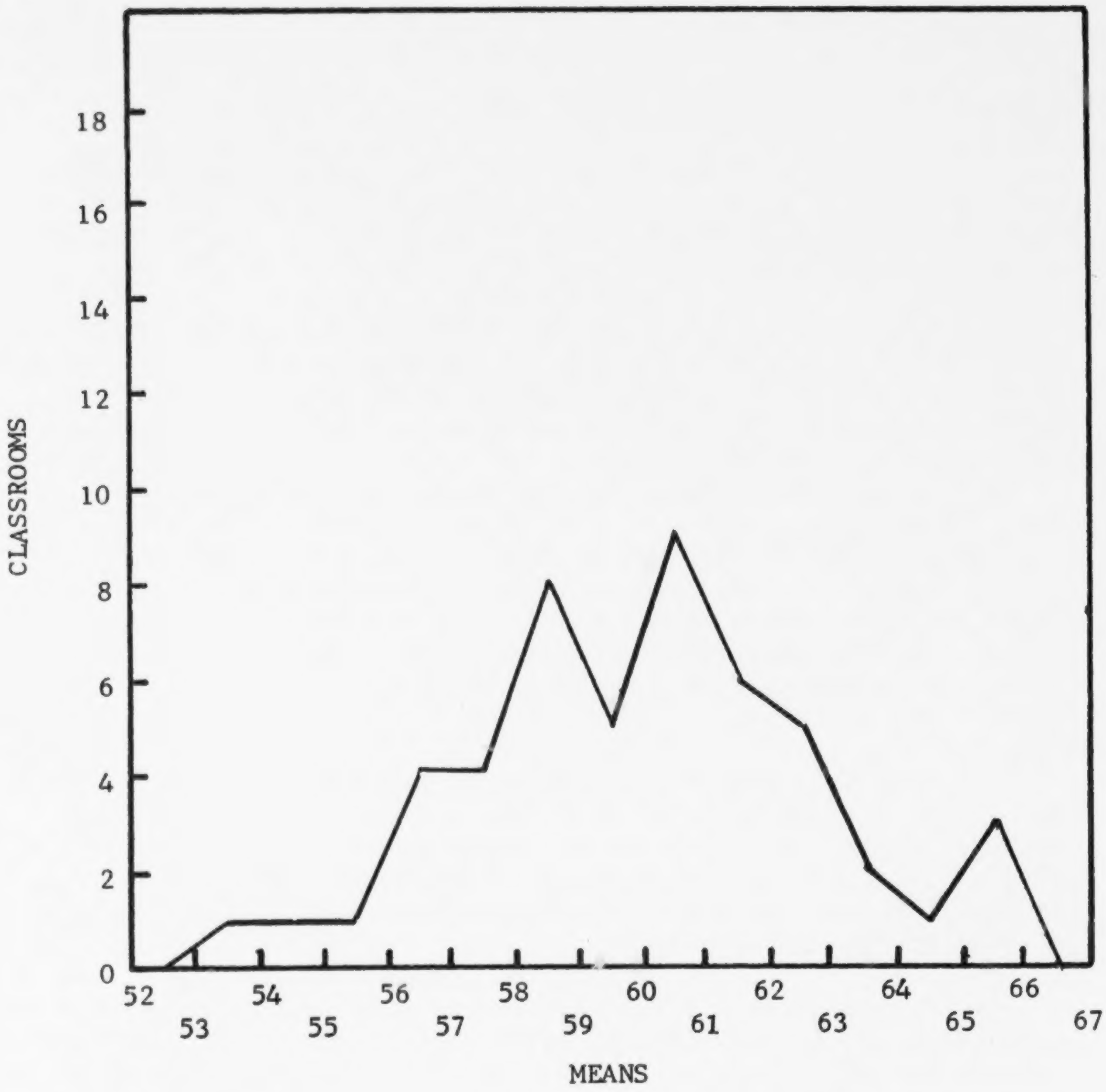
Figure 39. Distribution of Pupil Scores



GOAL X - Grade 11

The classroom mean scores range from 53.381 to 65.762. The distribution of scores is illustrated in Figure 40.

Figure 40. Distribution of Class Means



ITEM ANALYSIS

On the Grade 5 measure, 6 of the 11 items correlate significantly and positively. These item to total correlations range from r = .112 to r = .280. The remaining five items show insignificant correlations.

On the Grade 11 measure, 18 of the 20 items correlate significantly and positively with the total score. The correlations range from r = .110 to r = .499. The remaining two items show insignificant correlations.

At both grade levels, the item "What I am going to be when I grow up might not have been invented yet" does not seem to have any relationship to being or not being prepared for a world of change.

DISCUSSION

Analysis of the Goal X findings indicates that student, school and community variables which were believed to significantly contribute to knowledge about preparation for a world of change, have very little affect upon achievement in Goal X.

At the Grade 5 level, the socioeconomic status and staff variables which relate significantly to achievement in the more cognitive areas, also relate significantly to achievement in Goal X. At the Grade 11 level, the influence of the family and teacher disappears as being significant and the influence of the peer group, as seen by the school mores variables, emerges as significant.

Measurement in the Goal X area remains a challenge. At both grade levels, only five unique items were used. And of these five, three do not meet the item analysis test for the fifth grade and two do not meet the test for the eleventh grade. The remaining items are identical with portions of the instruments to measure in Goal IV and Goal VII.

As Goal X is presently conceptualized, there is some overlap among Goal X, Goal VII, and Goal IV. In order to prepare for a world of rapid change and unforeseeable demands, flexible thinking (Goal VII), tolerance of ambiguity (Goal VII), openness to experience (Goal VII), and importance of education (Goal IV) are considered necessary ingredients.

Continued efforts are needed to not only begin to define those conditions which contribute to our knowledge about achievement in Goal X, but also to develop measuring items to evaluate some of the more unique dimensions of Goal X.

SUMMARY AND IMPLICATIONS

With the completion of the first analysis of the Phase I data, the Pennsylvania Plan for the Assessment of Educational Quality has an empirical as well as theoretical structure on which to build.

Phase I was designed to measure relationships among what a pupil brings with him, what the community, school and staff can offer him, and what a pupil achieves.

The findings indicate that those factors a student brings with him, such as his level of previous learning as measured by I.Q. tests, and the educational and occupational level of his parents, stand forth in determining how well he will achieve. These findings are neither unexpected nor terminating. Instead, these findings reinforce the perhaps sometimes forgotten fact that pupils do indeed differ and that if school programs are to bring about changes, they too must differ in light of the pupils they serve.

The findings, however, do not account for all of the differences in pupil achievement. In fact, in many of the goal areas, less than half of the differences in pupil achievement is accounted for by individual pupil factors. The indications are strong that school programs can make a difference.

Racial composition is another highly significant variable. It is neither startling nor concluding to state that where the proportion of nonwhite students increases, almost universally the level of pupil performance on the goal measures decreases. Since schools can do nothing to alter a student's race or the educational and occupational levels of his parents, schools must concentrate on conditions they can affect.

Those school and staff factors which relate most highly to achievement are low absentee and retention rates, the ratio of library books to students, and the more experienced teacher. Unexpectedly, factors such as innovativeness on the part of the teacher and the school, staff to pupil, counselor to pupil and supporting personnel ratios and starting salaries appear to have very little if any relationship to pupil achievement.

One of the most notable findings is the apparent lack of relationship between cost factors and pupil achievement. Where school districts spend more money per pupil for instruction, pupil achievement on each of the goal measures is not necessarily higher. It is possible, however, that the ranges of per-pupil instructional costs are not great enough to reflect any differences in the levels of performance among pupils. To illustrate, the money spent per fifth grade pupil for instruction ranges from $208 to $398, with a median of $272. No correlation coefficients are significant between these spendings and fifth grade pupil achievement of any goal. At the eleventh grade level, however, where the money spent per pupil for instruction ranges from $204 to $638 with a median of $348, low positive correlations are found between spendings and goal attainments. The positive correlations are not great enough to have much practical utility, but they do suggest that as costs show more divergence among districts, relationships between costs and instructional outputs become significant.

Certain fixed costs must be met in order to bring pupils, teachers, and educational materials together. These fixed costs, however, do not vary as much in terms of the kinds of interactions which occur among teachers, pupils, and materials but vary more in terms of factors such as the cost of living, traditions of the community, and competitiveness of the teacher-labor market.

Cost findings generate many questions and hypotheses. Perhaps more specificities are needed about the manner and distribution of funds for the particular programs for which schools are spending money.

Issues such as these lead to a discussion of school processes. The original design of the Pennsylvania Plan for the Assessment of Educational Quality does not include the measurement of school processes. The original intent had been to look at school, pupil, and community factors, measure output, and leave the intervening processes for the local school personnel to study.

However, with the completion of the first analysis of the Phase I data, it is becoming apparent that school processes may have more of an affect on pupil achievement than all of the pupil, school and community variables combined. In light of these findings, the design of Phase II may have to be altered.

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF PUBLIC INSTRUCTION
BOX 911, HARRISBURG, PA. 17126

APPENDIX A

Dr. John Jones, Superintendent
Keystone School District
Susquehanna, Pennsylvania

Dear Dr. Jones:

The Bureau of Educational Quality Assessment has begun the task of developing evaluative procedures which will assist school personnel in the appraisal of educational performance and will fulfill the requirements of Section 290.1 of the School District Reorganization Act of 1963.

It is considered axiomatic by the Bureau's staff that adequate assessment of educational quality must take into account the context in which education takes place, including such influences as the resources of the school as well as its student body, its staff, and its curriculum. Accordingly, after reviewing major studies such as Project TALENT and the Coleman Study of Equality of Educational Opportunity, the Bureau is planning a preliminary collection of data designed to identify those conditions which seem most relevant to educational achievement in Pennsylvania. We wish to solicit your cooperation in this effort by requesting the opportunity to collect data from one fifth grade section in Riverview Elementary School.

During the week of January 8th, a representative of the Bureau will phone you for the purpose of setting up an appointment at which time the details of the proposed data collection may be explained and discussed.

We look forward to working with you in furthering the cause of quality education in the Commonwealth.

Sincerely,

Paul B. Campbell
Director
Bureau of Educational Quality Assessment

APPENDIX B

SAMPLE LETTER

LOCAL SCHOOL SYSTEM
JOHN DOE - SUPERVISING PRINCIPAL

January 29, 1968

Dear Parent:

The Department of Public Instruction has requested us to assist in an important project for the purpose of developing a "yardstick" to measure quality education in Pennsylvania. As part of our participation, one section of our fifth/eleventh grade will be asked to react to some special questions that have been developed or selected by the Bureau of Educational Quality Assessment, Department of Public Instruction. In reality, these are not tests in the usual sense. The answers given will be used to compute group scores. Individual student scores will not be retained. No one in our school system will know how each pupil answered the questions.

The pupil who brings this letter home has been selected to participate in this important project. Participation will require several hours on ____________________ and ____________________ of this coming week. I believe it will be an interesting and worthwhile experience.

If you have any questions or reservations concerning this matter, please feel free to be in contact with me. Your cooperation and understanding is appreciated.

Sincerely,

John Doe
Supervising Principal

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF PUBLIC INSTRUCTION
BOX 911, HARRISBURG, PA. 17126

Bureau of Educational Quality Assessment
Phase I Testing April-May, 1968

APPENDIX C

INSTRUCTIONS TO STUDENTS

READ at first seating.

You are about to take part in a very important project for the State of Pennsylvania. The Department of Public Instruction needs your help in order to learn more about how schools can better serve all students in the State.

You will be asked questions about how you feel about school, about our government, how you feel about yourself and about others. There will be some questions in reading, social studies, science, mathematics, art and music. You will be asked about your interests and about your future plans.

The answers you give will in no way affect your school grades. Your answer sheets will be scored by machine. You will be given a student number. When your answer sheets are scored, your name will not be on the score reports. In other words, your answer sheets will be kept in the strictest confidence and will not be returned to you or to your school.

You can help to make this Program a success by being very honest when answering those questions which ask for your opinions. For those questions which ask for facts, we hope you will answer in the best way you can.

The Department of Public Instruction is very grateful for your time and your cooperation in providing information to help improve the quality of education for all students in Pennsylvania.

APPENDIX D

Name of School ____________________________

School Number ____________________________

Most of the questions which follow refer to the particular school in which the testing is being done. Please answer the questions as accurately as you can. Use the accompanying envelope to mail the completed form to the Bureau of Educational Quality Assessment.

1. What percent of the student body of this school live in each of the following areas?

   _______________ %
   Rural _______________
   Suburban _______________
   Urban

2. Ratio of the instructional staff to pupils _______________

3. Absentee rate _______________
   (Aggregate Days Absence/Days School was in session)

4. Basic starting salary _______________
   (A teacher with a bachelor's degree and no experience.)

5. Retention rate (1966-67) _______________
   (Number of pupils retained/Average Daily Membership)

6. Ratio of guidance counselors/students in this school _______________

7. Total enrollment of the school _______________

8. Ratio of library books to students _______________

9. Percent of teachers with advanced degrees _______________

10. Median number of years of teacher experience which teachers in this school have _______________

11. Ratio of support personnel to classroom teachers _______________

    (Librarian, Counselors, Teacher Aide, A.V. Coordinator)

12. What is the relative stability of population of this community in the last five years?

    Growing Rapidly _______________
    Growing _______________
    Stable _______________
    Declining _______________
    Declining Rapidly _______________

13. (Senior High) Holding power of this high school ____________________

$$\frac{\text{Graduating class (1967) + transfers - new students}}{\text{10th Grade Enrollment September (1964)}}$$

14. The residences in the area served by your school are best described as primarily: (check one)

a. expensive-private homes ____________________
b. moderate-priced homes ____________________
c. low-cost homes ____________________
d. high-rental apartments ____________________
e. moderate-rental apartments ____________________
f. low-rental apartments ____________________

Here is a list of some relatively new educational practices. For each practice check the appropriate column as it pertains to your school.

	Don't agree with the practice	Have never tried it	Have considered trying it	Use it occasionally	Am using it regularly
1. Independent Study. Regularly scheduled work by individual pupils with a minimum of teacher direction.					
2. Nongraded classes. Pupils are assigned to classes on the basis of ability, without regard to traditional one-year steps.					
3. Teacher aides. Regular employment of personnel to assist the teacher in the classroom in administrative and other non-teaching functions.					
4. Lay readers. Regular employment of persons to assist the teacher in reading and grading the written work of pupils.					
5. Programmed instruction. The use of educational material so designed that each pupil works at his own pace through sequential steps, receiving immediate indication of the correctness of response he has given to programmed questions. May or may not involve mechanical devices or "machines".					
6. Work experience programs. Programs in which students, while in school or on vacation, undertake employment, under school guidance, directly related to their educational courses.					
7. Instructional television. Regularly scheduled in-class viewing of televised instruction, coordinated with instruction on the same material by the classroom teacher.					
8. Flexible scheduling. Situation in which class size, length of class meetings, number and spacing of classes are varied according to an assessment of the nature of the subject, type of instruction, and ability and interest of students.					
9. Departmentalization. (Elementary)					
10. Student tutorial program. Students who excel in a given subject area volunteer to help students having difficulty in that area.					
11. Other. Please specify.					

The following are additional comments to assist you in the interpretation of some items.

ITEM

1. URBAN: refers to townships with population of 25,000 or more or a density of 1,500 or more persons per square mile.

   SUBURBAN: refers to those areas lying immediately outside urban areas and primarily residential and townships with populations greater than 5,000 but less than 25,000.

   RURAL: refers to towns with population of 5,000 or less or farming areas.

2. INSTRUCTIONAL STAFF: persons who devote more than half of their time at school to teaching duties.

6. GUIDANCE COUNSELORS: refers to personnel whose specific duties are those of counseling and advising students.

13. TRANSFERS: refers to those students who have left the sample school to attend another school. Also to be included in this figure are those 1964 tenth graders who have died, become physically or mentally incapacitated or committed to a correctional institution. (Refer to PICA-13, Summary of Annual Attendance Report, Withdrawals, W_1 to W_5 inclusive, W_9, W_{10}, W_{11}, W_{12}, and W_{15}.)

    NEW STUDENTS: refers to those students in the 1967 graduating class who were not members of the September, 1964 tenth grade class.

    TENTH GRADE ENROLLMENT: the membership of the tenth grade in September, 1964.

APPENDIX E

School Name Riverview

School Number

3. Name of I. Q. Test

California Mental Maturity

1. Student	2. Student Number	Most recent I. Q. Score	4. Father's or Guardian's Occupation	5. Education of Father or Guardian	Mother or Guardian
Harrington, Rodney	56437	110	1	5	6

DPI QEA 68

APPENDIX F

Summary of Measurement Devices for Phase I
Educational Quality Assessment

GOAL	INSTRUMENT	SOURCE OF ITEMS
I	Pennsylvania Student Questionnaire	1. Coopersmith Self-Esteem Inventory 2. Educational Opportunities Survey Educational Testing Service Revised by Educational Quality Assessment
II	Pennsylvania Student Questionnaire	1. Pupil Questionnaire Educational Testing Service Revised by Educational Quality Assessment 2. Student Questionnaire Educational Testing Service Revised by Educational Quality Assessment 3. Educational Quality Assessment
III	Pennsylvania Survey Test	Harcourt, Brace & World Incorporated
IV	Pennsylvania Student Questionnaire	1. Coopersmith Self-Esteem Inventory 2. Student Questionnaire Educational Testing Service Revised by Educational Quality Assessment 3. Pupil Questionnaire Educational Testing Service Revised by Educational Quality Assessment
V	Pennsylvania Opinion & Interest Survey	Pennsylvania Citizenship Assessment (Bureau of Research Administration & Coordination, Department of Public Instruction)
VI	Health Behavior Inventory	California Test Bureau

GOAL	INSTRUMENT	SOURCE OF ITEMS
VII	Pennsylvania Opinion & Interest Survey	1. Independent Activities Questionnaire Educational Testing Service Revised by Educational Quality Assessment 2. Biographical Interest Questionnaire Educational Testing Service Revised by Educational Quality Assessment ELEMENTARY 3. Pennsylvania Appraisal of Creative Tendencies (Bureau of Research Administration & Coordination, Department of Public Instruction)
VIII	Vocational Development Inventory	Vocational Development Inventory Attitude Scale, Form IV: For Research Purposes Only (John O. Crites, The University of Iowa)
IX	Pennsylvania General Information Inventory	Test of General Information, Forms L & H (Educational Testing Service) Revised by Educational Quality Assessment
X	Pennsylvania Opinion & Interest Survey	1. Scale of Openness to Possibilities of Change in Our World (Bureau of Research Administration & Coordination, Department of Public Instruction) SECONDARY 2. Biographical Interest Inventory (Educational Testing Service), Revised by Educational Quality Assessment ELEMENTARY 2. Pennsylvania Appraisal of Creative Tendencies (Bureau of Research Administration & Coordination, Department of Public Instruction)
	Pennsylvania Student Questionnaire	SECONDARY Student Questionnaire (Educational Testing Service) Revised by Educational Quality Assessment

EDUCATIONAL QUALITY ASSESSMENT
PHASE I
OUTPUT VARIABLES
APPENDIX G

OUTPUT VARIABLES	ELEMENTARY ITEMS	SECONDARY ITEMS	SOURCE
I Self Concept	57	57	Pennsylvania Student Questionnaire
II Understanding Others	12	22	Pennsylvania Student Questionnaire
III Basic Skills	108	97	Pennsylvania Survey Test
IV Attitude Toward Learning	21	31	Pennsylvania Student Questionnaire
V Citizenship	37	37	Pennsylvania Opinion & Interest Survey
V-AT Citizenship Attitude	17	17	
V-AP Citizenship Application	20	20	
VI Health Habits	40	75	Health Behavior Inventory
VIIa Creativity (Elementary)	49	0	Pennsylvania Opinion & Interest Survey

OUTPUT VARIABLES	ELEMENTARY ITEMS	SECONDARY ITEMS	SOURCE
VII-O Creativity Output (Secondary)	0	80	Pennsylvania Opinion & Interest Survey
VII-P Creativity Potential (Secondary)	0	26	
VIII Vocational Development	50	50	Vocational Development Inventory
IX Knowledge of Human Accomplishments	67	69	Pennsylvania General Information Inventory
X Readiness for Change	11	12	Pennsylvania Opinion & Interest Survey
	0	8	Pennsylvania Student Questionnaire

EDUCATIONAL QUALITY ASSESSMENT
PHASE I
CONDITION VARIABLES

STUDENT CONDITIONS	MEASURE	SOURCE
11. Level of Previous Learning	Existing Local Tests	Student Information Form
12. Occupation of Father or Guardian	Rank Order 1. Unskilled 2. Semi-Skilled 3. Skilled 4. Clerical 5. Sales & Service 6. Proprietors - Managers 7. Professional	Student Information Form
13. Educational Level of Father	Rank Order 0. Not Available 1. None or some grade school 2. Completed grade school 3. Some high school, but did not graduate 4. Graduated from high school 5. Some college, vocational or business school after high school 6. Graduated from a regular 4-year college 7. Master's Degree 8. Some work toward a Ph.D or professional degree 9. Completed Ph.D or professional degree	Student Information Form

STUDENT CONDITIONS	MEASURE	SOURCE
14. Educational Level of Mother	Rank Order 0. Not Available 1. None or some grade school 2. Completed grade school 3. Some high school, but not a graduate 4. Graduated from high school 5. Some college, vocational or business school after high school 6. Graduated from a regular 4-year college 7. Master's Degree 8. Some work toward a Ph.D or professional degree 9. Completed Ph.D. or professional degree	Student Information Form
15. Continuing Education (Secondary)	Percentage of Class of 1966 Attending Post-High School Institutions	Bureau of Statistics
16. Racial Composition	Percentage of Whites in Classroom	Student Information Form
17-R. School Mores (Realistic) Secondary	Weighting: 4 - Bright & Interesting 3 - Doing Well in School 2 - Athletics & Personality 1 - Family Background	Pennsylvania Student Questionnaire Items 111, 112, 114
17-I. School Mores (Idealistic) Secondary		Pennsylvania Student Questionnaire Item 113

COMMUNITY CONDITIONS	MEASURE	SOURCE
18. Location Rural Suburban Urban	Weighting: Suburban - 3 Urban - 2 Rural - 1	School Information Form
19. Population Trend	Scale 1. Declining Rapidly 2. Declining 3. Stable 4. Growing 5. Growing Rapidly	School Information Form
20. Housing Types	Scale 1. Low Rental Apartments 2. Low Costs Homes 3. Moderate Priced Apartments & Homes 4. Expensive Apartments & Homes	School Information Form
21. Effort Index	$\frac{\text{Total Taxes Collected}}{\text{Market Value of Property}}$	Bureau of Statistics

SCHOOL & STAFF CONDITIONS	MEASURE	SOURCE
22. Enrollment	Fall 1967	School Information Form
23. Per-Pupil Instructional Costs	1966-67 Actual Expenditures for A. Professional Salaries B. Text & Library Books C. Instructional Supplies D. Other Staff & Instructional Expenditures	Annual Financial Report (PISA-16) School Accounting & Auditing Bureau

SCHOOL & STAFF CONDITIONS	MEASURE	SOURCE
24. Holding Power (Secondary)	$\frac{\text{Graduating Class (1967) + Transfers - New Students}}{\text{10th Grade Enrollment (Sept. 1964)}}$	School Information Form
25. Retention Rate	$\frac{\text{Number of Pupils Retained}}{\text{Average Daily Membership}}$	School Information Form
26. Library Books/ Student	Ratio	School Information Form
27. Innovative Scale	1 - Never Tried 2 - Don't Agree 3 - Use Occasionally 4 - Use Considerably 5 - Use Regularly Innovations include: Study, nongraded classes, programmed instruction, work experience programs, instructional TV & others.	School Information Form
28. Staff/Pupils	Ratio	School Information Form
29. Support Personnel/ Classroom Teachers	Ratio	School Information Form
30. Guidance Counselor / Students	Ratio	School Information Form

SCHOOL & STAFF CONDITIONS	MEASURE	SOURCE
31-Sc. Teacher Educational Level (School)	Percentage with Advanced Degrees	School Information Form
31-Sa. Teacher Educational Level (Sample)	Rank Order 1. Less than 4 years 2. A.B. or B.S. 3. Masters 4. Educational Specialist 5. Doctorate	Teacher Questionnaire Item 6
32-Sc. Teaching Experience (School)	Median Number of Years	School Information Form
32-Sa. Teaching Experience (Sample)	Scale 1. Less than one year 2. 1 year 3. 2 years 4. 3-5 years 5. 6-10 years 6. 11-15 years 7. 16-20 years 8. 21 or more years	Teacher Questionnaire Item 3
33a. Teacher Experience in Present System	Scale 1. Less than one year 2. 1 year 3. 2 years 4. 3-5 years 5. 6-10 years 6. 11-15 years 7. 16-20 years 8. 21 or more years	Teacher Questionnaire Item 4

SCHOOL & STAFF CONDITIONS	MEASURE	SOURCE
33b. Teacher Experience in Present Position	Scale 1. Less than one year 2. 1 year 3. 2 years 4. 3-5 years 5. 6-10 years 6. 11-15 years 7. 16-20 years 8. 21 or more years	Teacher Questionnaire Item 5
34. Teacher Salaries (Starting)	1967-68 Year	School Information Form
35. Teacher Age	1. 20-24 years 2. 25-29 3. 30-34 4. 35-39 5. 40-44 6. 45-49 7. 50-54 8. 55-59 9. 60 or Over	Teacher Questionnaire Item 2
36. Teacher Degree Institution	Weighting 1. Less than 4 years 2. State College 3. Liberal Arts or University	Teacher Questionnaire Item 7
37. Teacher Background (High School and Locale)	1. Immediate Area 2. Outside Area in State 3. Out of State 4. U.S. Possession 5. Out of Country	Teacher Questionnaire Items 8 & 9

SCHOOL & STAFF CONDITIONS	MEASURE	SOURCE
38. Educational Level of Teacher's Mother	Rank Order 1. None 2. Elementary 3. Some Secondary 4. Graduated, high school 5. Some post-high school 6. Graduated from college 7. Post graduate (M.A., etc.)	Teacher Questionnaire Item 10
39. Occupational Level of Teacher's Guardian	Rank Order 1. Unskilled 2. Semi-skilled Worker: operative 3. Owner of small business or small farm 4. Skilled worker, craftsman, foreman 5. Sales, clerical & similar white collar 6. Professional-managerial	Teacher Questionnaire Item 11
40. Perception of & Attitude Toward Gaining Professional Recognition	Weighting Quality, Dependability & Inventiveness = 1 Seniority, Education & Personality = 2 Weights Assigned on the Basis of Ordered Pairs: 1, 1 = 4 2, 1 = 3 1, 2 = 2 2, 2 = 1	Teacher Questionnaire Items 12 & 13

SCHOOL & STAFF CONDITIONS	MEASURE	SOURCE
41. Teacher Aspirations	4. Administration 3. Curricular Supervision & Psychological Services 2. Teacher 1. Out of Education	Teacher Questionnaire Item 14
42. Teacher Perception of School Climate	Response Items Include: 15. I find my job very exciting and rewarding. 16. I am just a cog in the machinery. 17. I feel involved in a lot of activities. 18. I do things at school that I wouldn't do if it were up to me. 19. I really don't feel satisfied with a lot of things. 20. I have a lot of influence with my colleagues on educational matters.	Teacher Questionnaire Items 15-20
43. Discrepancy Between Teachers Perception of & Attitude Toward Degree of Influence of Policy Making Groups	1-5 Response Scale for each Item-Scores averaged for Discrepancy between who are believed to be influential & who ought to be influential A. Administration & School Board B. Teachers & Teacher Groups C. Colleges, Parent Groups & Newspapers D. Students	Teacher Questionnaire Items 21-48

SCHOOL & STAFF CONDITIONS	MEASURE	SOURCE
44. Classroom Innovation	Innovations Include: A. Pupil participation in lesson planning, teaching, evaluation & discipline B. Use of role playing & games C. Community involvement Scale 5. Using Regularly 4. Using Occasionally 3. Considered 2. Don't Agree 1. Never Tried	Teacher Questionnaire Items 49-59
45. Absentee Rate	$\frac{\text{Aggregate Days Absence - 1967}}{\text{Total Days in School Year}}$	School Information Form

PHASE I CORRELATIONS GRADE 5

APPENDIX H

		I	II	III	IV	V	V-AT	V-AP	VI	VIIa	VIII	IX	X	11	12	13	14	16	18	19	20	21	22	23	25
Self	I	X																							
Others	II	270	X																						
Skills	III	287	320	X																					
Learning	IV	594	338	293	X																				
Cit.	V	276	381	448	358	X																			
Cit.	V-AT	263	355	459	303	X	X																		
Cit.	V-AP	242	342	363	350	X	671	X																	
Health	VI	234	180	108	291	240	305	280	X																
Creat.	VIIa	216	338	422	356	498	476	436	150	X															
Vo. Dev.	VIII	257	200	414	242	294	155	235	151	294	X														
Apprec.	IX	285	333	736	270	434	454	344	102	385	390	X													
Change	X	198	222	370	250	339	374	250	123	547	276	356	X												
L.P.L.	11	248	301	702	236	417	420	345	065	325	366	608	286	X											
F. Occ.	12	161	236	365	150	225	232	182	078	194	136	405	230	287	X										
F. Ed.	13	182	239	366	193	258	255	219	054	226	173	402	197	299	661	X									
M. Ed.	14	122	190	284	158	194	174	181	051	183	142	342	132	215	452	675	X								
Race	16	094	265	376	115	340	360	265	069	258	220	355	197	330	187	236	221	X							
Loc.	18	087	136	227	161	158	153	136	010	159	052	233	158	120	280	306	253	088	X						
Pop.	19	-060	-025	039	-031	015	014	014	-045	015	009	094	053	065	175	099	062	-305	253	X					
Housing	20	028	144	224	035	116	121	092	021	060	002	285	107	199	363	247	205	071	388	438	X				
Effort	21	-059	017	076	-034	012	012	010	055	022	109	084	001	089	050	031	031	270	-147	220	260	X			
Enrol.	22	-029	-101	-134	-021	-177	-181	-144	-054	-124	093	-046	-071	-113	046	000	-079	-660	137	354	264	-261	X		
P. P. Exp.	23	007	050	-058	-016	023	011	032	-036	-026	-182	023	018	-015	190	114	083	-137	158	195	262	-150	144	X	
Ret. R.	25	-033	-033	026	-066	-018	-010	-023	006	-017	065	-070	-048	057	-178	-193	-100	162	-255	-230	-196	010	-277	-210	X
		I	II	III	IV	V	V-AT	V-AP	VI	VIIa	VIII	IX	X	11	12	13	14	16	18	19	20	21	22	23	25

PHASE I CORRELATIONS GRADE 5

		SELF	OTHS.	SKIL	LRNG.	CIT.	CIT.	CIT.	HLTH.	CRET.	V.DEV.	APRE.	CHG.	L.P.L.	F.OCC.	F.ED.	M.ED.	RACE	LOC.	POP.	HOUS.	EFRT.	ENRL.	P.P.EX.	RET.R.
		I	II	III	IV	V	V-AT	V-AP	VI	VIIa	VIII	IX	X	11	12	13	14	16	18	19	20	21	22	23	25
Library	26	-008	082	268	-043	129	141	098	004	081	066	219	108	242	175	150	136	278	143	046	330	064	-067	180	068
S. Innov.	27	016	-016	-101	026	-062	-075	-039	-032	-100	-134	-118	-042	-072	074	024	-029	-274	110	091	227	-294	386	237	-341
Staff	28	009	-001	022	-039	046	051	033	-047	-014	-055	-076	-007	-026	-093	-123	-047	207	-109	-256	-181	-054	-410	108	220
Support	29	-023	-008	042	-013	-011	001	-021	002	052	-080	-005	009	040	-023	-026	-024	050	014	049	020	258	-200	147	186
Coun.	30	-020	-089	-131	-027	-167	-151	-154	-059	-083	-173	-135	-104	-086	-099	-106	-133	-251	-156	-155	-136	-174	138	003	-004
T. Ed.	31-Sc	042	069	111	056	121	090	130	063	094	-031	139	075	058	246	251	133	-058	210	205	358	-165	169	261	-227
T. Ed.	31-Sa	021	079	077	014	036	004	064	018	041	-051	055	055	-026	203	158	148	-097	178	112	264	080	029	366	045
T. Exp.	32-Sc	088	155	081	115	146	157	111	077	125	016	165	086	136	086	110	132	297	-125	-121	-088	-098	-195	-306	-075
T. Exp.	32-Sa	105	200	199	143	168	168	140	118	190	190	214	121	213	099	102	123	291	001	-125	086	090	-259	-412	-007
T. Exp. S.	33a	104	198	218	138	163	153	146	096	174	162	232	111	221	120	114	109	240	061	-076	234	027	-088	-363	073
T. Exp. P.	33b	084	180	176	108	159	154	138	052	150	107	258	114	203	142	142	095	154	162	-002	264	-083	029	-239	-135
T. Sal.	34	-044	-084	-196	-017	-159	-181	-111	-043	-152	-186	-087	-093	-192	094	102	049	-620	210	289	250	-208	684	300	-457
T. Age.	35	091	140	102	097	115	117	094	070	129	158	105	069	164	-028	-008	021	294	-058	-230	-058	018	-253	-372	088
T. Col.	36	018	029	146	009	092	010	070	-015	033	052	205	064	082	204	217	185	150	420	076	210	-055	069	332	-164
T. Back.	37	-062	-022	002	-131	-036	-023	-042	-050	-005	-042	003	009	-017	030	010	005	024	008	204	-014	229	-092	261	179
T.M. Ed.	38	-031	004	-090	-039	-013	-035	010	-033	-059	-163	-007	-011	-106	199	192	133	-129	167	294	298	016	164	422	-206
T.F. Occ.	39	-004	033	-061	-023	-063	-064	-051	008	-099	-191	-042	-052	-094	116	073	082	-092	132	160	358	075	162	278	-150
Prof. Rec.	40	028	063	093	020	085	093	063	030	100	187	-047	082	150	008	-071	-057	182	-204	045	031	257	-334	-054	090
T. Aspire	41	-071	-141	-097	-105	-148	-162	-111	-046	-131	-068	-071	-080	-143	-091	-067	-049	-220	-021	-245	080	-008	100	067	006
Sch. Clim.	42	034	130	090	040	061	063	048	-009	069	067	150	084	090	151	069	065	-060	-008	307	223	-082	010	186	-040
Influence	43	048	010	-024	111	024	-010	051	032	048	-004	-163	009	-094	-087	-053	-072	-161	204	007	-194	-172	094	-194	-171
T. Innov.	44	005	125	106	072	073	084	051	028	058	059	207	049	112	120	020	004	044	003	144	275	118	091	008	-040
Absent	45	-049	-205	-184	-060	-145	-167	-100	-034	-129	-066	-157	-098	-194	-171	-100	-144	-489	-008	-120	-291	-508	274	022	-227

PHASE I CORRELATIONS GRADE 5

		26	27	28	29	30	31Sc	31Sa	32Sc	32Sa	33a	33b	34	35	36	37	38	39	40	41	42	43	44	45
Library	26	X																						
S. Innov.	27	136	X																					
Staff	28	242	004	X																				
Support	29	243	-144	124	X																			
Coun.	30	-032	262	-165	211	X																		
T. Ed.	31-Sc	123	184	-140	-011	004	X																	
T. Ed.	31-Sa	226	094	277	050	-123	462	X																
T. Exp.	32-Sc	-180	-088	-165	-186	-134	006	-440	X															
T. Exp.	32-Sa	-124	-310	-142	-107	-232	028	-244	705	X														
T. Exp. S.	33a	-120	-125	-132	-188	-199	140	-173	616	839	X													
T. Exp. P.	33b	-037	-099	-130	-226	-258	226	-084	536	721	873	X												
T. Sal.	34	-128	508	-348	-186	173	358	294	-238	-348	-177	-048	X											
T. Age	35	-189	-376	-014	-057	-222	-113	-356	617	845	756	700	-417	X										
T. Col.	36	387	124	221	-081	-134	292	473	-411	-388	-395	-252	242	-428	X									
T. Back	37	252	-057	-030	362	022	-184	304	-388	-408	-486	-413	-051	-394	117	X								
T.M. Ed.	38	008	248	-075	-145	-176	370	253	-057	-290	-184	-063	385	-309	120	120	X							
T.F. Occ.	39	211	287	003	-213	-137	029	105	-069	-271	-250	-247	228	-366	240	025	430	X						
Prof. Rec.	40	195	-094	209	210	044	-259	-148	164	215	203	125	-448	240	-325	140	-124	-316	X					
T. Aspire	41	074	048	131	-067	115	078	357	-448	-335	[illegible]	-204	310	-248	378	010	048	040	-263	X				
Sch. Clim.	42	083	254	024	-171	011	-040	208	093	060	099	099	087	-053	-013	237	114	031	395	-148	X			
Influence	43	-372	188	018	-059	152	062	-059	-011	027	092	056	121	074	219	-215	046	-074	-280	-098	-263	X		
T. Innov.	44	068	-022	-233	070	246	-061	030	084	128	115	049	121	-065	-032	041	-066	-053	188	-080	357	-146	X	
Absent	45	-138	297	-070	-165	214	136	-002	-250	-242	-193	-075	459	-203	130	-227	044	-094	333	383	-031	174	-119	X
		26	27	28	29	30	31Sc	31Sa	32Sc	32Sa	33a	33b	34	35	36	37	38	39	40	41	42	43	44	45

PHASE I CORRELATIONS GRADE 11

		I	II	III	IV	V	V-AT	V-AP	VI	VIIO	VIIP	VIII	IX	X	11	12	13	14	15	16	17-R	17-I	18	19	20	21	22	23	24	25
Self	I	X																												
Others	II	277	X																											
Skills	III	220	270	X																										
Learn	IV	557	362	277	X																									
Cit.	V	275	362	302	456	X																								
Cit.	V-AT	242	357	327	377	X	X																							
Cit.	V-AP	253	302	228	438	X	622	X																						
Health	VI	216	292	637	297	399	402	326	X																					
C.O.	VII-O	052	074	013	146	080	008	124	-057	X																				
C.P.	VII-P	178	269	277	280	279	237	263	249	322	X																			
V.D.	VIII	330	271	501	296	337	321	291	577	-024	199	X																		
Apprec.	IX	214	242	746	242	203	252	127	512	054	277	393	X																	
Change	X	196	347	194	596	420	417	348	252	166	529	164	219	X																
L.P.L.	11	166	229	792	188	197	234	133	540	022	268	418	700	169	X															
F. Occ.	12	124	137	395	102	134	141	105	237	076	152	244	400	065	383	X														
F. Ed.	13	091	137	377	073	089	125	044	178	093	148	172	375	068	370	626	X													
M. Ed.	14	087	107	359	069	099	126	061	204	084	120	172	337	066	353	448	637	X												
Cont. Ed.	15	084	117	294	022	059	111	007	240	051	130	187	348	063	320	411	305	256	X											
Race	16	013	017	404	-005	109	128	075	293	-078	042	213	366	094	378	223	149	169	297	X										
Mores	17-R	196	221	107	344	210	179	198	175	-045	073	130	057	268	[illegible]	038	016	-003	-048	035	X									
Mores	17-1	184	301	294	327	252	234	222	296	045	191	247	254	292	233	116	105	084	092	108	478	X								
Loc.	18	019	048	051	-025	-024	005	-043	019	101	071	040	127	013	099	242	155	117	499	025	-034	027	X							
Pop.	19	028	073	263	-011	-013	014	-033	169	054	044	113	294	057	284	327	219	179	438	361	-014	092	262	X						
Housing	20	016	053	168	-073	-022	016	-049	117	041	049	096	259	013	197	287	221	174	471	313	-045	026	286	389	X					
Effort	21	007	080	267	032	093	102	069	155	-019	034	122	205	080	227	213	127	098	306	306	008	089	197	269	213	X				
Enrol.	22	052	037	-116	-006	-083	-064	-083	-124	041	039	-034	-014	-035	-042	099	069	023	278	-336	-048	-053	292	042	-033	-111	X			
P.P. Exp.	23	091	115	247	094	100	119	067	142	067	085	153	266	087	203	290	201	144	398	210	044	111	387	247	467	354	021	X		
Hold	24	027	073	274	016	126	148	087	211	014	089	135	240	079	236	192	146	166	412	526	-017	107	205	204	134	324	-322	317	X	
Ret. R.	25	-028	011	-278	-012	-126	-127	-102	-257	031	-032	-187	-249	-064	-253	-142	-095	-129	-159	-672	-037	-065	-044	-217	-256	-105	560	-225	-523	X
		I	II	III	IV	V	V-AT	V-AP	VI	VIIO	VIIP	VIII	IX	X	11	12	13	14	15	16	17-R	17-I	18	19	20	21	22	23	24	25

PHASE I CORRELATIONS GRADE 11

		SELF	OTHS.	SKIL	LRNG.	CIT.	CIT.	CIT.	HLTH.	CR.O.	CR.P.	V.DEV.	APRE.	CHG.	L.P.L.	F.OCC.	F.ED.	M.ED.	CONT.	RACE	MORES	MORES	LOC.	POP.	HOUS.	EFRT	ENRL.	P.P.EX.	HOLD.	RET.R.
		I	II	III	IV	V	V-AT	V-AP	VI	VIIO	VIIP	VIII	IX	X	11	12	13	14	15	16	17R	17I	18	19	20	21	22	23	24	25
Lib.	26	024	032	124	072	099	085	093	099	032	062	082	086	061	048	077	062	053	000	103	053	055	095	-091	305	-075	-369	490	245	-304
S. Innov.	27	057	067	000	074	041	020	050	-006	007	015	048	012	010	010	090	017	009	167	-213	001	038	148	-244	109	-075	300	092	-050	239
Staff	28	046	077	214	112	105	104	088	115	023	073	099	142	087	130	113	086	070	073	081	039	093	006	-076	216	121	-174	624	092	-092
Supt.	29	004	011	079	051	025	014	029	016	-024	045	012	012	023	-013	-064	-023	-014	-325	060	082	051	171	025	116	-140	-309	-115	-059	-154
Coun.	30	055	095	-008	083	020	003	031	007	070	080	034	-011	029	-041	064	048	-013	-010	-250	069	091	049	-149	234	-076	-079	332	125	121
T. Ed.	31-Sc	114	065	-090	074	022	030	011	-066	062	055	001	-020	003	-082	049	016	028	240	-272	-002	002	166	-113	-115	-297	384	183	-018	153
T. Ed.	31-Sa	073	112	013	055	-030	-021	-032	026	103	104	082	101	013	017	098	112	094	173	-231	-010	008	094	-112	189	-178	398	120	-062	147
T. Exp.	32-Sc	023	048	069	055	106	107	087	077	035	042	045	088	056	011	107	066	038	205	256	056	056	066	-168	-124	-036	-010	329	243	-148
T. Exp.	32-Sa	-021	000	-069	008	058	046	057	-024	066	034	-021	-040	041	-081	-012	-031	-045	-033	001	017	-008	170	-235	047	-041	065	245	086	-010
T. Exp. S.	33a	055	-002	-040	041	083	062	085	-013	072	051	-016	000	036	-049	-014	-038	-039	-008	016	014	013	007	-318	-033	-067	064	213	134	-029
T. Exp. P.	33b	032	041	006	031	098	061	110	009	061	016	-014	032	049	-009	-011	-017	-016	-010	214	022	029	-007	-192	-021	-048	-041	025	150	-119
T. Sal.	34	039	048	-143	-011	-128	-119	-112	-122	050	021	-046	-076	-082	-113	-014	009	-033	041	-479	-023	-032	126	-155	043	005	427	-001	-239	493
T. Age	35	023	-031	-074	032	084	060	089	-041	044	012	-009	-036	027	-057	018	-043	-046	-001	-004	001	-029	094	-267	014	-071	139	281	050	-094
T. Col.	36	001	-015	-102	-004	019	031	005	-069	-006	021	-038	-094	-018	-126	-149	-120	-095	013	-188	-033	-043	-025	-511	-224	-181	164	071	040	153
T. Bk.	37	-058	-033	114	-069	-039	-032	-038	054	020	026	056	131	006	084	192	121	124	337	172	-100	-013	172	412	300	459	-181	156	177	-134
T.M. Ed.	38	-029	-024	096	-043	-056	-042	-057	037	-029	-070	021	078	-050	045	079	051	047	043	160	-027	002	-091	199	-048	376	-035	097	060	-044
T.F. Oc.	39	099	090	084	059	012	030	-005	009	-021	023	096	114	-015	089	102	100	079	102	-156	037	044	002	048	044	088	264	055	-066	130
P. Rec.	40	006	-016	179	-022	-010	-003	-013	101	-018	033	055	164	034	133	109	110	135	253	346	012	044	166	359	167	370	-160	310	290	-192
T. Asp.	41	-047	-067	-230	-104	-066	-041	-074	-177	-019	-089	-140	-197	-095	-177	-109	-093	-074	-090	-251	-101	-149	163	-083	-110	-075	-070	-076	-020	055
S. Cli.	42	076	026	165	020	048	024	059	153	014	003	135	202	027	174	151	067	039	246	265	-037	044	098	144	179	291	-139	177	107	-206
Infl.	43	036	-021	046	057	063	064	051	104	-048	050	037	010	065	-018	-184	-132	-090	-209	092	051	031	-290	-331	-368	-162	-171	-226	200	-025
T. Inv.	44	022	009	016	-016	-030	-001	-048	082	043	070	039	062	021	080	-011	012	024	-114	061	008	-048	075	-009	113	-255	-043	-224	-264	-159
Absent	45	-008	-007	-357	-016	-140	-148	-110	-275	078	-022	-206	-304	-098	-317	-197	-150	-162	-242	-829	-048	-094	-001	-308	-327	-368	430	-309	-441	736

PHASE I CORRELATIONS GRADE 11

		26	27	28	29	30	31Sc	31Sa	32Sc	32Sa	33a	33b	34	35	36	37	38	39	40	41	42	43	44	45
Library	26	X																						
S. Innov.	27	-006	X																					
Staff	28	539	166	X																				
Support	29	185	-002	171	X																			
Coun.	30	500	395	344	211	X																		
T. Ed.	31-Sc	042	359	096	-023	094	X																	
T. Ed.	31-Sa	-009	301	056	-015	227	464	X																
T. Exp.	32-Sc	236	225	137	-013	149	189	087	X															
T. Exp.	32-Sa	097	046	173	-134	074	314	186	441	X														
T. Exp. S.	33a	159	081	220	-089	097	291	061	460	680	X													
T. Exp. P.	33b	-041	045	092	-059	-083	123	-037	377	535	724	X												
T. Sal.	34	-105	221	-277	-003	323	172	483	003	-104	-082	-210	X											
T. Age	35	186	102	165	-203	082	367	059	413	834	782	495	-117	X										
T. Col.	36	-033	215	108	-251	023	355	194	131	266	256	231	082	187	X									
T. Back	37	-066	-101	027	-122	-070	-240	-174	-125	-086	-065	-044	-132	-055	-36[illegible]	X								
T.M. Ed.	38	-134	-200	-076	-197	053	-425	-180	-156	-245	-149	-157	-058	-152	-097	338	X							
T.F. Occ.	39	-139	002	-151	-034	132	-020	080	-246	-356	-089	-225	224	-219	071	040	356	X						
Prof. Rec.	40	126	-264	216	117	-084	-194	-179	-201	-077	-174	-065	-158	-141	-233	291	230	-157	X					
T. Aspire	41	-121	-013	-221	-159	-185	219	-096	-174	-046	-155	-093	117	010	120	-111	-114	-191	-159	X				
Sch. Clim.	42	-043	071	052	-196	054	-211	079	-064	043	107	291	023	096	-095	221	129	-008	229	002	X			
Influence	43	-064	-034	-059	013	-146	096	028	196	032	124	089	-080	-092	266	-172	-299	-065	-114	-138	-146	X		
T. Innov.	44	-039	-086	-144	196	-089	081	259	-046	056	-060	016	021	-004	-057	-212	-20[illegible]	-062	-162	183	144	034	X	
Absent	45	-228	269	-157	-100	252	369	311	-269	-000	045	-083	530	-014	243	-249	-158	092	-294	278	-173	019	043	X
		26	27	28	29	30	31Sc	31Sa	32Sc	32Sa	33a	33b	34	35	36	37	38	39	40	41	42	43	44	45

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